

COLUMBIA LIBRARIES OFFSITE

HEALTH SCIENCES RESTRICTED



HR00774979

American dental surgeon

Serial

J. 7

A

1887


copy 4

Columbia University
in the City of New York

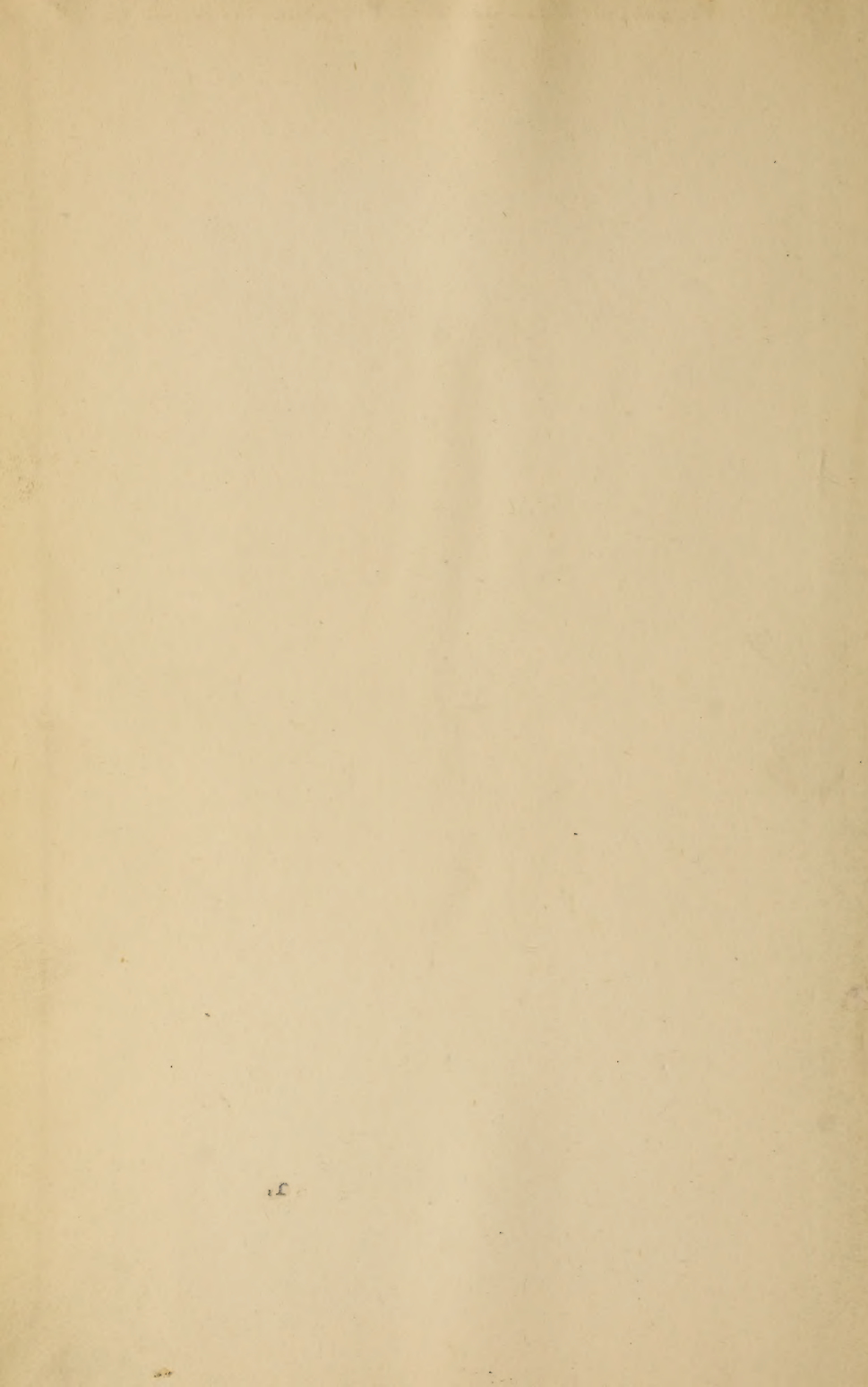
School of Dental and Oral Surgery



Reference Library



Digitized by the Internet Archive
in 2014



THE
OHIO JOURNAL
OF
DENTAL SCIENCE.

EDITED BY
GEORGE WATT, M. D., D. D. S.
XENIA, OHIO.

VOL. VII.

PUBLISHED MONTHLY BY
RANSOM & RANDOLPH,
TOLEDO, OHIO.

INDEX TO VOLUME VII.

CONTRIBUTIONS AND CORRESPONDENCE—	PAGE.
Address to Members of the Graduating Class of the Ohio College of Dental Surgery.....by <i>H. P. Lloyd.</i>	150
Adjunctive Condition of Dentistry and its True Relation to Med- icine.....by <i>J. Irving Thayer, D.D.S., M.D.</i>	505
Alcohol Molecules.....by <i>Dr. J. N. Hurty.</i>	518
A Question.....by <i>L. P. Bethel, D.D.S.</i>	261
A Correction.....by <i>A. Berry.</i>	586
Amended Dental Law of Indiana—How Construed	436
Biographical Sketch of Prof. James Taylor with his Portrait, by the Editor.	1
Biographical Sketch of Prof. Chapin A. Harris with his Portrait, by the Editor.	249
Biographical Sketch of Prof. Thos. L. Buckingham with his Portrait.....by the Editor.	449
Case in Practice.....by <i>E. H. Raffensperger, D.D.S.</i>	309
Cases in Practice (illustrated), by <i>Geo. W. Keely, D.D.S.</i>	49-97-201-305-453
Casts and Dies—Swaging Plates.....by <i>L. P. Haskell, D.D.S.</i>	205
Change of Front.....by <i>Dr. Norman W. Kingsley.</i>	110
Chemistry as Applied in Dentistry.....by <i>L. P. Bethel, D.D.S.</i>	9- 99
Dental Decay—Theories of.....by <i>Geo. Watt, D.D.S., M.D.</i>	61
Dentistry a Specialty in Medicine.....by <i>Dr. J. S. Converse.</i>	81
Economy.....by <i>E. H. Raffensperger, D.D.S.</i>	456
Engine Burnisher and Band Matrix in Filling with Amalgam, by <i>Dr. H. G. Husted.</i>	107
Founding of the Ohio College of Dental Surgery, by <i>A. Berry, D.D.S.</i>	207
Gas in Combination.....	435
Hamamelis Virginica.....by <i>D. A. Colton, M.D.</i>	37
Harelip and Cleft Palate—Treatment of a Case, by <i>C. H. Harroun, M.D., D.D.S.</i>	145
How to Educate the People.....by <i>Dr. C. W. Munson.</i>	405
Impressions.....by <i>L. P. Haskell, D.D.S.</i>	59
Laboratory Inquiries Answered....by <i>L. P. Haskell, D.D.S.</i>	36-108-308
Laboratory Hints.....	112

CONTRIBUTIONS AND CORRESPONDENCE—*Continued.*

PAGE

Merchant Kelly —a Sketch.....	52-233
Methods and Means..... <i>by J. Edmund Kells, Jr., D.D.S.</i>	255
Notes on Orthodontia with a New System of Regulating and Retention (illustrated)..... <i>by E. H. Angle, D.D.S.</i>	457
Notes from Europe..... <i>by N. W. Williams, D.D.S.</i>	553
Obtunding Sensitive Dentine <i>by C. W. Leake, D.D.S.</i>	379
Operating in a South Light..... <i>by James W. Cormany.</i>	38
Periostitis and Necrosis of the Superior Maxilla, <i>by Dr. J. Fremont Burkett.</i>	262
Plaster vs. Modeling Compound..... <i>by C. C. Everts, M.D.</i>	277
Potash Alum.....	280
Process of Absorption in Dental Tissues, <i>by W. H. Whitslar, D.D.S., M.D.</i>	401
Proposed Ohio Dental Law.....	79
Report of a Case with Items of Interest <i>by Dr. G. A. Mills.</i>	353
Repairing Rubber Plates..... <i>by C. M. Colby.</i>	234
Replacing Teeth on Celluloid Plates..... <i>by J. H. Warner, D.D.S.</i>	483
Sketch of Merchant Kelly <i>by the Editor.</i>	52
Sounds from Chicago.....	284-279
Tarnished Gold Fillings	379
The Ohio State Dental Society—Suggestions Wise and Other-wise..... <i>by William Herbert.</i>	585
Those Tooth Crown Patents.....	587
Transplantation and Replantation of Teeth.. <i>by A. Berry, D.D.S.</i>	515
Transplanting Teeth—to Avoid Syphilis in.....	80
"Vacuum Plates"..... <i>by W. E. Swigert, D.D.S.</i>	356

SOCIETY PAPERS—

A Ten Minutes Sermon on Nutrition .. <i>by C. M. Wright, D.D.S.</i>	169
Amalgams..... <i>by Prof. J. B. Hodgkin.</i>	577
Antisepsis..... <i>by M. H. Chappell.</i>	421
Art in Dentistry..... <i>by Dr. Jenison.</i>	581
Artificial Substitutes for Natural Teeth.. <i>by Dr. Henry Barnes.</i>	365
Aseptic Sponge..... <i>by Dr. Parramore.</i>	537
Buccal and Labial Cavities—Treatment of <i>by J. E. Robinson, D.D.S.</i>	322
Causes of Failures of Fillings <i>by Dr. Staples.</i>	536
Chalk Talk on the Preparation of Cavities.. <i>by S. T. Kirk, D.D.S.</i>	409
Chronic Pyæmia from Dental Origin..... <i>by R. J. Porre, D.D.S.</i>	475
Conservatism in the Selection of Filling Materials, <i>by Dr. Marshall.</i>	480
Correction of Irregularities of the Teeth..... <i>by Dr. Talbot.</i>	30
Culture of Microbes..... <i>by G. V. Black, M.D., D.D.S.</i>	265
Dental Hemorrhage and its Treatment .. <i>by Otto Arnold, D.D.S.</i>	34
Dental Art and Invention..... <i>by Dr. Swasy.</i>	310
Dental Science and Literature..... <i>by Dr. Koch.</i>	313
Dental Literature and Nomenclature—Report on, <i>by Louis Ottofy, D.D.S.</i>	465
Diagnosis of Oral Tumors..... <i>by T. W. Brophy, D.D.S.</i>	427
Extract Teeth—Should Physicians? <i>by Dr. Corbin.</i>	228

CONTRIBUTIONS AND CORRESPONDENCE— <i>Continued.</i>	PAGE
Fractures of Maxillæ with Modified Interdental Splint, by Wm. Carr, D.D.S.	476
Historical Sketch of the Mississippi Valley Association, by E. G. Betty, D.D.S.	158
Histology and Microscopy.....Report by H. A. Smith, D.D.S.	576
Immediate Root Filling.....by A. E. Baldwin, M.D., D.D.S.	479
Impressions.....by W. H. Dorrance, D.D.S.	209
Items of Interest.....by C. R. Butler, D.D.S., M.D.	27
Lining Plates with Gold or Felt Foil.....by W. H. Stephenson.	415
Management of Pulpless Teeth.....by Dr. J. E. Cravens.	358-532
Materia Medica and Therapeutics, Report by A. W. Harlan, D.D.S.	572
Matrices as Adjuncts in Filling Teeth.....by Dr. T. E. Weeks.	534
Medicinal Stimulants.....by L. C. Ingersoll, M.D., D.D.S.	316
Microscope in Progressive Dentistry—its use, by L. L. Davis, D.D.S.	432
My Method of Bridge-Work.....by H. W. Runyon, D.D.S.	33
Near Approach to, and Devitalization of the Dental Pulp, by J. E. Robinson, D.D.S.	566
New Remedies.....by A. W. Harlan, D.D.S., M.D.	187
Nitrous Oxide.....by A. M. Long, D.D.S.	220
Operative Dentistry.....by J. A. Robinson, D.D.S.	18
“ “by Edmund Noyes, D.D.S.	320
“ “ —Report on.....by E. T. Darby, D.D.S.	526
“ “ —as Applied to the Deciduous Teeth, by W. N. Morrison, D.D.S.	376
Osteomyelitis.....by Dr. Metnitz.	535
Pain in the Temporo-Maxillary Joint caused by Irregularity of the Teeth.....by C. L. Goddard, A.M., D.D.S.	584
Permanent First Molars.....by A. J. Smith, D.D.S.	417
Permanent First Molars.....by J. A. Watling, D.D.S.	230
Photo-Micrographs of all the Structures of the Tooth, by Dr. J. Howard Mummery.	583
Practical Therapeutics.....by A. W. Harlan, D.D.S., M.D.	318
Practical Miscellany.....by Dr. A. L. Overholser.	414
Preliminary Education.....by J. N. Crouse, D.D.S.	466
Protective Dentine; illustrated by Stereopticon, by Dr. Fletcher.	583
Reflex-(ions).....by C. M. Wright, D.D.S.	559
Regulating Appliances.....by Dr. N. J. Roberts.	267
Relative Duties of Patient and Operator, by J. W. Lyder, D.D.S.	272
Report of Committee on the state of the Indiana Society, by W. B. Knapp, D.D.S.	406
Salivary Analysis.....by Dr. V. C. Vaughan.	217
Soft Gold Foils.....by Dr. Geo. H. Winckler.	538
Special Case (illustrated).....by Dr. J. H. Morrison.	31
Teeth of Rabbits.....by Frank Abbott, M.D., D.D.S.	530
The Relation of Dentistry and Medicine, by W. A. Dunn, M.D.	183
The Extraction of Teeth.....by A. Berry, D.D.S.	556

CONTRIBUTIONS AND CORRESPONDENCE— <i>Continued.</i>		PAGE
The Origin of the Dental Fibril, illustrated by Aid of Stereopticon.....	by Dr. R. R. Andrews.	581
Tin and Gold as a Filling.....	by E. G. Betty, D.D.S.	569
Tooth Crowns and Porcelain Enamel Facings,	by C. H. Land, D.D.S.	215
Use of Hot Air in Dental Therapeutics....	by E. Brasseur, D.D.S.	478
SOCIETY TRANSACTIONS—		
American Dental Association.....		464-526-572
Indiana State Dental Society.....		358-406
International Medical Congress.....		474-532-581
Illinois State Dental Society.....		263-310-373-427
Michigan State Dental Society.....		209
Mississippi Valley Dental Society.....		158
Northern Ohio Dental Society.....		272-322-365
Ohio State Dental Society.....		15-556
Southern Dental Society.....		478-536-577
COMPILATIONS—		
A Glossary on Microbes.....	by Dr. W. Hamlet.	77
A Specialist on Specialism.....	by Dr. E. Wigglesworth.	280
Chloroform Water.....	by Dr. Beurnmann.	78
Dental Education.....	by J. S. Rounce.	330
Grafting of Human Bone.....		542
Harelip Operation.....	by Dr. Leuske.	543
Headaches in Diagnosis.....	by C. Benson, M.D.	76
Iodine in the Treatment of Glandular Swellings.	by Dr. J. Little.	131
Medicine and Money.....		483
Nasal Polypi—Method of Removing.....		543
New Remedies.....	by Dr. H. Schweig.	74
Pain.....	by J. T. Whittaker, M.D.	70
Phosphates in Therapeutics.....		127
Primary Anæsthetic Stage of Ether.....	by Dr. J. H. Packard.	381
Principles and Progress of Modern Therapeutics,	by Dr. W. H. Draper.	113
Relation of Dentition to Aural Troubles.....	by Dr. S. Sexton.	380
Remarks on Pathology of Shock.....	by Dr. McGuire.	122
Removal of Right Half of Lower Jaw by Slow Enucleation.....		485
Science Teaching.....	by Sir James Paget.	281
Sharpening Hypodermic Needles.....		129
Simple Substitute for Harelip Pins.....	by Dr. C. F. Mason.	130
The Inutility of Lime Phosphates.....		128
The Question of Advertising a Specialty.....		79
Treatment of Excessive Salivation during Pregnancy.....		128
Zonular Cataract and Dental Malformations.....		130
EDITOR'S SPECIALS—		
Aaron Washington.....		88
A Call from his Quietude.....		389
A Field for Fun.....		439

EDITOR'S SPECIALS—*Continued.*

PAGE

A Lesson in Rhetoric.....	486
A Miscellany.....	590
As Others See Us.....	40
Conglomerate Teaching.....	544
Death's Doings.....	440
Delayed.....	39
Doctor L. P. Haskell.....	440
Does the Study of Specialties Tend to Egotism?.....	381
Editorial Fairness—What about it?.....	437
English as Written.....	491
Germs and Disease.....	545
Implantation of Teeth.....	493
Is Dentistry a Specialty in Medicine?.....	282
“ “ “ —A New Departure.....	337
Journalistic Responsibility.....	87
Mississippi Valley Dental Association.....	39
Not Seasoned with Sage.....	494
Obituary of Dr. Edmund Osmond.....	41
“ “ “ Joel P. Ulrey.....	42
Our Portraits.....	87
Pointed Expressions.....	488
Report of the Michigan State Dental Society.....	331
Selecting Students.....	285
Thanks.....	286
The Ideal Filling.....	84
The Killed Dog.....	589
The Very Thing to do.....	337
Thoughtless if not more so.....	387
Too Early Extraction of Temporary Molars.....	87
True History or None.....	336
Walker, J. R., D.D.S.....	441

WHAT WE SEE AND HEAR— Edited by L. P. BETHEL, D.D.S.

A Good Sterilizer.....	592
Acid—Formic—its use.....	495
Acids of the Stomach in Health and Disease.....	595
Action of Strong Cocaine Solutions.....	134
Alkaloidal Characteristics.....	548
Alloys—Resembling Gold.....	548
Alveolar Abscess—Treatment.....	134
Amalgam Carrier.....	91
Amalgam—Mixing of.....	133
Amalgam Finisher.....	286
Anæsthetic—Local.....	238-288-549
“ —Chinese.....	339
Anæsthesia—an Aid in.....	390
Anæsthetics and Stimulants.....	192
Antiseptic.....	496

WHAT WE SEE AND HEAR— <i>Continued.</i>	PAGE
Antiseptics—Caution in use of.....	496
Antiseptic Sponge.....	550
Antral Catarrh—Treatment of.....	496
Artificial Respiration—an Aid to.....	289
Arthritis—Symptomatic Alveolar.....	337
Artificial Teeth—Swallowing.....	290
Artificial Respiration—Method of.....	499
Artificial Crown—how to make.....	500
Artificial Ramus and Condyle.....	593
Atmosphere Purifier.....	592
Bacteria —a Cause of Suppuration.....	132
Bacterial Resistance.....	443
Bacterium Phosphorescens.....	444
Bands—for Bridge-work.....	390
Benzine—to Deodorize.....	390
Benzoin for Ulcers.....	495
Bilious Temperament.....	500
Bleaching Teeth—Process of.....	238
Blistering—a Method of.....	237
Broaches—how to make.....	133
“ —Method of Tempering.....	289
“ —to Remove those Broken.....	496
Burns—Treatment of.....	442-548
Calendula —uses of.....	239
Calcium Sulphide—care in using.....	495
Calculi—Salivary.....	550
Cancerous Tumors—to Arrest Growth of.....	499
Capping—Material for.....	337
Carbolic Acid—Analgetic Action of.....	392
“ “ —to Liquify.....	497
“ “ and Creosote—difference.....	443
Caries of Teeth—Cause of Epilepsy.....	443
Catarrh of Antrum—Treatment.....	496
Caustics—use in Surgery.....	550
Cavities—how to cut in Artificial Teeth.....	192
“ difficult of Access—how to fill.....	193
“ —Lining of.....	391
Cement—tests for.....	193
“ —for Celluloid.....	338
“ —insoluble.....	496
“ —how to mix.....	498
“ Mixtures—Best Temperature for.....	496
Chloroform—Submucous Injections of.....	497
Chloroform as a Hæmostatic.....	593
Cleft Palate Operations.....	443
Clinics.....	503
Cocaine—Action of.....	134
“ —Test for.....	238

WHAT WE SEE AND HEAR—*Continued.*

PAGE

Cocaine—an Antagonist to Strychnine	90
“ —how to Preserve.....	91
“ Poisoning—Antidote.....	191
“ —Dangerous.....	287
“ —Paralysis from Injections of.....	288
“ —use of in Burns.....	495
“ —in Inflamed Tissues.....	549
Composition for Duplicating Models.....	498
Controlling Hemorrhage.....	595
Collodion—Antiseptic.....	338
Crown—how to make.....	500
Crowning—Method of.....	194
Crown and Bridge Work—Bands for.....	389
Dam—to Repair Broken.....	390
Damages—will collect.....	286
Dark Joints—the cause.....	134
Death from Injections of Peroxide of Hydrogen.....	91
Death after Extraction of Teeth.....	594
Dentists in England.....	132
Dentistry—Early History of.....	290
“ —not a Specialty in Medicine.....	134
Dentifrice of Sulphur not Effectual.....	287
Dentition—Late.....	499
Deposit in Zinc Phosphate—cause of.....	191
Dies—for Crown Work... ..	287
Disk Cutter—how to make.....	288
Disinfecting Compound.....	289
Dressing for Root Canals.....	495
Drugs—Impurities of.....	288
Early Dentistry.....	290
Enamel—Sensitiveness of.....	549
Epilepsy—from Carious Teeth.....	443
Ether—Precautions in Administering.....	497
Eugenol as a Dressing.....	134
Excavating—to Lessen Pain of.....	192
Exposed Pulp—Capping.....	191
Extraction of Third Molar... ..	237
“ —Persistent Sneezing after.....	499
Filling Pulpless Teeth.....	392
Fillings—Method of Dressing.....	191
“ —How to Start.....	192
“ —Loose Gold—Treatment of.....	238
“ —to Secure Good.....	389
Fitting Plates to Flabby Mouths.....	594
Flux—for Bridge-work.....	339
Formic Acid—as a Disinfectant.....	495
Fractured Plates—to Reunite.....	496
Gold—to Facilitate Melting of.....	496

WHAT WE SEE AND HEAR— <i>Continued.</i>	PAGE
Gold—Alloy Resembling.....	548
Gums—Treatment of Sore.....	498
Hæmostatic Cotton.....	91
Holder for Rubber Dam.....	338
How to Mix Amalgams.....	133
Hypodermic Injection.....	548
Hypodermic Irritation—to Allay.....	286
Ice—Impure.....	390
Inflamed and Sore Gums—to Harden.....	191
Injections of Chloroform—Dangers from.....	497
Insoluble Cement.....	496
Iodine Irritation.....	549
“ —Local Revulsive Action of.....	495
“ —to Remove Stains of.....	495
Iodoform and Silver.....	391
“ —to Deodorize....	549
“ —Vapor of.....	239
Irregularities.....	194
Iron—to Free from Rust.....	548
Late Dentition.....	499
Leaking Dam—to Repair.....	390
Ligatures—for Regulating.....	442
Local Anæsthetic... ..	237-288-549-592
Lymphatic Temperament.....	500
Making Repairs.....	390
Malaria and Tobacco.....	390
Medicaments—Carrier of.....	192
Mercurial Teeth.....	393
Metals—How to Platinize.....	498
Method of Lining Vulcanite Plates.....	133
Micro-organisms.....	443
Micro-Organisms of the Mouth.....	593
Models—Composition for Duplicating.....	498
Molars—to Preserve.....	288
Moldine—Melotte’s.....	338
Mouth Wash.....	496
“ “ —Antiseptic.....	443
Nausea after Ether—How to Control.....	134
Necrosis—Phosphor.....	443
Nerve—to Unite.	288
Nervous Temperament.....	500
Neuralgia—Cure for.....	389-548
Notching of the Incisor Teeth not of Syphilitic Origin.....	595
Obtaining a Third Hand.....	132
Obtundents.....	135
Organism—a New.....	338
Oxygen—Solid.....	391
Paper—Salicylated.....	390

WHAT WE SEE AND HEAR— <i>Continued.</i>	PAGE
Paste—for Devitalizing Pulps.....	287
Phthysical Teeth.....	392
Phosphor—Necrosis.....	443
Pickling Solution.....	338
Plaster—to Avoid Expansion and Warpage of.....	192
“ —to Separate in Flasks.....	237
“ —to Harden.....	288
Plates—to Mend.....	444
“ —to Reproduce Fractured.....	496
Platinum—Melting—Radiations from.....	548
Pliability—to Restore in Rubber.....	389
Polishing—Method of.....	337
Progress.....	286
Ptyalism—How Averted.....	287
Pumice—Carrier for.....	287
Pulps—Preparation for Destroying.....	240
Pulpless Teeth—Filling of.....	392
Pyorrhœa—Cleansing Teeth and Gums in cases of.....	191
Pyemia—following Extraction	497
Read Journals.....	594
Regulating—Bands for.....	288
“ —Materials for.....	338
Remarkable Dentition.....	593
Remedy for Sty.....	592
Replanted Teeth—Retention of.....	193
Resorption of Roots—one cause.....	192
Respiration—an Aid to Artificial.....	289
“ —Method of Artificial.....	499
• Rest—Give us the.....	443
Rickety Teeth.....	392
Root Canals—How to Open.....	194
“ “ —Drier for.....	287
“ “ —Dressing.....	495
Rough Plates the Cause of Sore Mouths.....	91
Rubber—Deterioration of.....	338
“ —to Restore Pliability.....	389
“ —to Prevent Crawling of.....	390
“ —How to Preserve.....	191
Rubber Dam—Holder for.....	338
Rubber Plate—Repairs of	390
Rust Stains—to Remove.....	288
Salicylated Paper.....	390
Salivary Calculi.....	550
Sanguine Temperament.....	500
Separation of Teeth.....	192
Shellac Varnish—to Make Clear.....	288
Silver and Iodoform.....	391
“ —Melting—Radiations from.....	548

WHAT WE SEE AND HEAR— <i>Continued.</i>	PAGE
Solder—for Aluminum.....	338
Sponges—to Make Antiseptic.....	550
Spores of the Saliva.....	91
Stains—to Remove from Teeth.....	390
“ —of Iodine—How Removed.....	495
Steel—to Brighten.....	237
“ —to Free from Rust.....	548
Stenocarpine a Fraud.....	592
Stitching Wounds.....	132
Stomatitic Teeth.....	393
Stopping—a Temporary.....	192
Strumous Teeth.....	392
Sulphide of Calcium—care in using.....	495
Sub-iodide of Bismuth.....	496
Swaging—Machine for.....	239
Syphilitic Teeth—Appearance of.....	393
Syringe—New Design.....	238
Tannin—Test for Water.....	548
Teeth—Separation of.....	192
“ —Retention of Replanted.....	193
“ —Swallowing Artificial.....	290
“ —Cheap ones must go.....	289
“ —Types of in Disease.....	392
Tempering—Method of.....	288
Temperaments.....	500
The Best Broaches.....	133
Thymol.....	495
Third Molar—Extraction of.....	237
Tincture of Iodine—to Decolorize.....	* 191
To Protect Tissues from Arsenical Paste.....	91
“ Prevent Chloro-percha Adhering to Instruments.....	91
“ Reduce Dislocation of the Jaw.....	132
“ Avoid Dark Lines in Gum Sections.....	132
“ Make Loose Plates Fit.....	133
“ Make Artificial Teeth Correspond to Natural.....	132
“ Obtund Sensitive Dentine.....	592
Tobacco Breath—to Destroy Odor of.....	495
Tooth Pulp—to Test Vitality of.....	391
“ —in Left Orbit.....	444
Treatment for Hardening Enamel.....	134
Undercuts—cares for.....	289
Ulcers—cure for.....	495
Vehicle for Menthol.....	592
Vulcanized Rubber—Loss of Elasticity.....	338
“ “ —Alteration of.....	496
Welding.....	237
What Next.....	339
Wounds—Drainage of.....	193
Yawning—after Extraction of Teeth.....	499

SOCIETIES—

PAGE

Alabama Dental Association.....	137
American Dental Association.....	291-342-445
An International Dental Congress.....	44
Analysis of State Dental Laws.....	502
Central Tennessee College of Dentistry.....	298
" Dental Association of Northern New Jersey.....	297
Chicago Dental Society.....	295
" College of Dentistry.....	295
Conditions of Membership in the Ninth International Medical Congress.....	397
Erratum.....	398
First District Dental Society of New York.....	551
Illinois State Dental Society.....	196-344
Indiana Dental College.....	200
" State Dental Association.....	294-394
International Medical Congress—Explanatory Statement.....	395
" Dental " 	138
" Medical " 	139
Iowa State Dental Society.....	195
Is Dentistry a Specialty in Medicine?.....	340
Kentucky State Dental Association.....	241
Louisiana " " " 	47
Meetings.....	43-92-136-195-240-290-340-393-444-501
Mad River Dental Society.....	243
Michigan State Dental Society.....	243
Minneapolis Dental Society.....	445
Minnesota State Dental Society.....	502
Mississippi Valley Association.....	93-136-197
Missouri State Dental Society.....	243-294
" Dental College Alumni Association.....	298
National Association of Dental Examiners.....	340
" " " Faculties.....	445
" Board of Examiners.....	446
Nebraska State Dental Society.....	241
" " " Law.....	300
New Dental Society.....	47
New York College of Dentistry.....	296
North Carolina State Dental Association.....	343
Northern Ohio Dental Society.....	241-342-502
Ohio College of Dental Surgery.....	199-293
" " " " vs. Rosenthal.....	344
" State Dental Society.....	501-596
St. Louis Dental Society.....	93
Southern Illinois Dental Society.....	137
" Dental Association.....	394-501
South Carolina Dental Association.....	395
The Dental Law of Indiana as Amended in 1887.....	299
University of Iowa.....	296

SOCIETIES—*Continued.*

PAGE

University of Maryland.....	297
Western District Dental Society of Illinois.....	394
Wisconsin State Dental Society..	294

BOOKS AND PAMPHLETS—

American System of Dentistry.....	245-598
Caulk's Dental Annual.....	93
Dentistry not a Specialty in Medicine.....	247
Lindsay & Blakiston's Physician's Visiting List for 1888.....	599
Management of Pulpless Teeth.....	247
Microscopic Structure of the Human Tooth.....	246
Nineteenth Century Sense.....	398
Nitrous Oxide.....	599
Proceedings of the Arkansas State Dental Association.....	247
Relation of the State to the Medical Profession.....	94
Room for More.....	95
The Archives of Dentistry.....	94
“ Dental Register.....	94
“ “ Office and Laboratory.....	94
“ “ Review.....	95
Transactions of the American Dental Association.....	93
“ “ “ Illinois State “ “.....	599
“ “ “ Indiana “ “.....	599
“ “ “ Pennsylvania State Dental Association.....	247

AFTERMATH—

A Bacteriological Journal.....	96
A Dispelled Delusion.....	303
A Dental Weekly.....	350
A Dakota Doctor.....	448
A Good Appointment.....	399
A Glorious Country.....	504
A Learned Man.....	144
A Market Report.....	399
A New Wrinkle.....	400
A New Hæmostatic.....	78
A Scotch Gillie.....	504
A Solvent for Sordes in Ataxic Fevers.....	304
A Specimen of French Dentistry.....	351
A Question of Pronunciation.....	400
A Woful History.....	504
Advice.....	95
American Dentists in Germany.....	302
An Official Decision.....	351
An Inference.....	551
As Others See Us.....	552
Bacteria and the Price of Ice.....	448
Certain of Nothing.....	303
Chicago Medical and Dental Schools and Journals.....	96

AFTERMATH—*Continued.*

	PAGE
Clinics.....	399
Common Sense in Dental Practice.....	144
Commencement Orators.....	302
Continuous Gum Furnaces.....	69
Death from Chloroform.....	302
Defects of the Osseous System and Diet.....	48
Dentists and Pharmacists.....	448
Dignity in Title.....	48
Disguising the Odor of Iodoform.....	96
Discovery of Gold.....	248
Doctor J. Rollo Knapp.....	303
Early Dentition.....	302
Education—a College.....	304
Effects of Study on the Teeth.....	303
Electricity and Welding.....	95
English as she is Taught.....	350
Expansive Alloy.....	95
Experiments by Dr. Dunn.....	248
Health	144
Herr Strauss.....	96
Honors Conferred.....	400
Josh Billings on Doctors.....	448
Keep Informed.....	351
Keep Records of Cases.....	448
Liniment for Neuralgia.....	95
Married	551
Medical Logic.....	448
“ Slang.....	552
Nitrate of Silver Stains.....	95
No Women Need Apply.....	448
Ohio Dental College.....	248
Ornamental Teeth.....	504
Physicians may Pwaktice Dentistwy, You Naw!.....	600
Proposed New Dental Law for Ohio.....	248
Proprietary Medicine.....	96
Prospectus—Dental Review.....	96
Sad but True.....	351
Sadly Afflicted.....	552
The American Dentist in England.....	248
“ Electro Magnetic Mallet.....	200
“ Influence of Drugs upon Digestion.....	352
“ Father of his Country.....	302
“ “Medson”, Man in Ohio.....	352
“ Specialist.....	304
“ Teeth from a Medico-Legal Aspect.....	400
“ “ of Apache Indians.....	302
“ Third Scourge of Humanity.....	200
“ Wonders of Spiritualism.....	504

AFTERMATH—*Continued.*

	PAGE
The Result.....	600
They must go.....	200
Think for Yourself.....	350
This is not an Old Saw	96
To Create.....	200
Too Scientific.....	350
Uncle Esek's Wisdom.....	301
Unique Western Manners.....	504
Wedding Bells.....	399
What are the Duties of a Dentist.....	144
Woman in Dentist's Chair.....	600
Women.....	200
" as Dentists.....	400
Worth Remembering.....	48





Engraving by H. H. H. H.

Wm. Taylor

Ohio Journal of Dental Science, Toledo, O

THE
OHIO JOURNAL
—OF—
DENTAL SCIENCE.

VOL. VII.

JANUARY 1, 1887.

No. 1.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

PROF. JAMES TAYLOR, M. D., D. D. S.

LIKE many, if not a majority of those who figure as leaders in our large cities, the subject of this sketch was born and reared in a rural district. It has been said that the large cities are ulcers on the body politic, and are kept from utter and fatal malignancy only by the influx of recruits from the country. Whether viewed from a political, moral or social standpoint, this quaint description of cities is not far from the truth. At any rate, had Dr. Taylor not given to Cincinnati his personal and professional presence and influence, Dental Surgery would have lost a forward impulse there, and would have lagged behind in the race for professional progress, instead of stepping promptly and boldly to the front, and establishing the second dental college the world ever saw, and the first, indeed, owned and controlled by an association of dentists. This association was an incorporated body, and its property was inalienably and forever devoted and dedicated to the cause of education in Dental Surgery and its collateral sciences.

To show the clearness of thought and fidelity to principle

pertaining to Dr. Taylor, nothing can be found better than a provision embodied in the constitution of this association by Dr. Taylor, who was the author, not only of this measure, but of the constitution as well. Some of those subscribing stock to build and equip the college seemed to fear that some cunning, selfish man, in the profession or out of it, might buy a majority of the stock, and thus control the educational measures of the college, and possibly divert it into dishonorable and unprofessional channels.

The measure referred to seems a little complex, but is very simple when understood. The educational interests of the college were put under the care and control of this, known as "THE OHIO DENTAL COLLEGE ASSOCIATION," and each member had one vote. These individual votes were not cast as the votes of stockholders; for the man with but one share, or no share at all, if only a member, had the same power as the one owning a dozen shares. The charter provided that in the simple control of the property, as such, only stockholders had a right to vote, and they were entitled to a vote for each share of stock.

But, to become a member of the College Association, a man had to be elected to membership by a majority vote of the members acting, the incorporators being the original members. Then it was provided that an alumnus, by paying annually the interest on a share of stock was eligible to membership, and if so elected he had an equal vote as to the control of the educational matters of the college. Thus it was made easy to prevent the perversion of the institution by designing men buying up the stock, for such speculators would not be elected to membership in the association, and consequently have no voice in selecting a faculty, or in prescribing a curriculum of study.

The stockholders had power over the property, to buy, sell, build, etc.; while as stockholders simply they had no other power. If elected to membership in the association, as they were eligible, they had power over the educational interests, having each a single vote, regardless of the stock they owned.

This measure has been greatly admired by many, and I have always regarded it as the master stroke of Dr. Taylor. More than once were plots originated to get control of the college for selfish purposes, but this wise and judicious arrangement was, each time, found to be an insuperable barrier.

It is referred to above as the master stroke of Dr. T., and evidence is not lacking that he even surpassed himself in devising and executing it. Members of the association may recall a time when Dr. T., was himself surprised at its efficiency, and at its security as a prudential measure. He had forgotten its strongest points.

This is introduced early in this sketch because it is regarded as the best key to the man's character we have.

In the spring of 1850 I made the acquaintance of Wm. Jones, M. D., of Kenton, Hardin County, *Ohio, who had been a fellow student with Doctor Taylor, under a private preceptor, and he told me much about their student lives. The location was at, or in the vicinity of Bainbridge, Ohio, where Dr. Taylor was born. This was a small village in a densely populated community. In such society each individual knows what the rest do, and what they say; and the neighborhood now under consideration formed no exception to the rule. Hence, when Bill Jones and Jim Taylor began to study medicine the whole community was aroused and amused. Each was called doctor *just for fun*; but the title had become familiar and firmly fixed long before they regarded themselves as worthy to wear it.

Jones began the study something earlier than Taylor; and was somewhat familiar with technical terms when Taylor came to the office. His description of Dr. T.'s efforts to master the big, hard words was amusing. He said that not before or since had he met one who seemed to encounter such difficulty. But, said he, Taylor belonged to a church that believes in the perseverance of the saints, and he regarded himself as a saint, and therefore he persevered, till now, said he, on a late visit to Cincinnati, I find him at the head of the dental profession, and president of the only dental college in the West. And, said he, I am not at all surprised, for when life and health are granted, such industry and perseverance as he possessed will always win.

When *boys* undertake to study a profession among their play-mates and associates, they are apt to be jeered and ridiculed. Our friend was no exception to this rule, and Dr. Jones told two anecdotes illustrating this, while one of them demonstrates Dr. T.'s difficulty with professional terms.

At a corn husking a young man cut his hand. Dr. T. was in the house, on a friendly visit. Some one said, I'll run into the

house and hear what the young doctor says you ought to do for your hand. After learning the nature of the wound, he said it would be well to bring the margins together by adhesive plaster, but he feared there was none at hand. Not hearing the first syllable at all, and the second but indistinctly, and not caring for the reputation of the new doctor, he ran back and reported that the wound must be covered with heathen plaster, and henceforth *heathen* plaster was regarded as his first prescription in his native neighborhood.

He had trouble with the term *æso-phagus*, and instead of getting the accent placed on the second syllable, he accented both the first and third syllables. This secured him the nickname, *Easy Phagus*, and "Easy Jim" soon followed. But he was not "easy Jim," nor easy at all, till he mastered whatever he had undertaken.

Doctor Jones spoke in something of a jocular manner in stating that our hero belonged to a church that believes in the perseverance of the saints. Dr. T. was a member of the Presbyterian Church, and early in his christian course was elected to the responsible position of ruling elder, and probably no layman in southern Ohio had his name among the members of church courts—presbyteries, synods, and assemblies—oftener than he. His activity, urbanity, and steadfastness to principle caused this. He was selected as a delegate much more frequently than he would have been in turn by routine selection.

In his presence it was easy to recognize that he was a christian gentleman, yet he was always free from cant, and did not regard a "long face," or a sour countenance as essential to christianity. Few men were more cheerful. He went smiling along the journey of life, and the world was all the brighter for his going through it. As a result of his cheerful contentment, none could say,

" His face was furrowed o'er with years,
And hoary was his hair ;"

For up to the close of life he was as exempt from the tracks and footprints of "wrinkled care" as were average men of thirty; and only a few hairs had been frosted by the icy touch of the frozen fingers of Father Time.

Already allusion has been made to the friendship between Dr. T. and his fellow pupil, Dr. Jones. This always reminded me

of chemical affinity—an attachment of unlikes; for, except that both were professional men, and both christians, no two could be more unlike than these two. On my first acquaintance with Dr. T. he asked me if I knew Dr. J. Replying affirmatively, he said I always thought he seemed as if he had swallowed all the dictionaries; for the more crooked the word the better he liked it. Dr. T. was portly, with a ruddy complexion. Dr. J. was small, very slim and nervous, without any complexion. Dr. J. was excitable—even fussy, while Dr. T. was calm and dignified. Dr. Jones was a Methodist, and a local preacher. While Dr. T. held to perseverance in all good things, Dr. J. told me he often felt like falling; but I never knew him to do so. Perhaps he was like the “Fighting Parson,” so called from his being Colonel of a regiment characterized by its fighting qualities. The Parson sharply denounced the “drink traffic” in one of his sermons. A saloon keeper present with his family, next day, got a horse-whip, and sent for the parson to come to his store. Hoping to find a case of conviction, he promptly went. As soon as he was inside, the proprietor locked the door, and, producing the whip, said, “You abused me to your heart’s content yesterday, now I propose to get satisfaction by wearing this out, in flogging you.” “But, see here,” said the Parson, “it is supposed that our church believes that christians may fall from grace. I feel a little shaky and light-headed now. Better let me out into the fresh air, or I might fall.” And estimating the size, and looking at the clenched fist of the Parson, he quietly, yet promptly opened the door. Dr. Jones was, perhaps, a little shaky, while Dr. T. was steady and steadfast. They remained fast friends till death. Some of the early readers of the *Dental Register* will remember that Dr. Jones reported a case in which a lower maxilla had been lost by necrosis, and a new bone had been produced. I think this was probably the first case of the kind reported in our American dental periodicals. Dr. Taylor died in the harness, while Dr. Jones was helpless for years before his death.

Dr. Taylor studied medicine under a private teacher at Bainbridge or its vicinity. Dr. Jones told me, and I think Dr. T. did likewise, that Dr. John Harris, a brother of the afterward famous and revered CHAPIN A. HARRIS, was their preceptor. And this quiet country locality might well be called the birth place of American dentistry. For as far as dentistry had yet been recognized and

practiced, it was similar in aims and results the world over, to the extent of civilization. But Chapin Harris was practicing medicine at Greenfield, but ten or twelve miles distant. Both the Harris brothers and Dr. Taylor concluded to practice dentistry in connection with medicine. A free exchange of opinion showed that Drs. Chapin Harris and James Taylor held identical opinions as to the necessity of a thorough professional education for the dentist, and neither rested till he had, with such assistance as he could rally around him, established a college to afford the desired instruction, of which they both so strongly felt the need.

It was probably his acquaintance with Chapin Harris that turned the current of Dr. Taylor's thoughts and efforts into the channel of dentistry. At any rate he very early turned his medical attainments in this direction.

As was common in those days, Dr. Taylor travelled from village to village in the practice of dentistry. In a recent number of the JOURNAL is found an account of his first visit to Xenia, Ohio, starting from Wilmington with a money capital of six and a fourth cents.

For a time Dr. Taylor practiced, both medicine and dentistry in partnership with his preceptor Dr. John Harris, the specialty gaining on the general practice, and in their special practice they itinerated to a considerable extent among the neighboring villages. But after a year or two Dr. Taylor settled in Hillsborough, Ohio, while Dr. Harris settled at Chillicothe.

In 1830 Dr. Taylor went to Transylvania University, in Lexington, Ky., and in time received the degree of M.D. Returning to Ohio he was licensed to practice medicine by the board of censors, and opened his first medical office in Bainbridge.

For a few years Dr. T. spent the winter in the south and the summer in the north. In 1834 he decided to wholly abandon the practice of medicine, yet he never regarded the time spent in medical study as lost. His medical knowledge was ever considered by him as his best stock in trade. He continued to spend the winters in the south till 1838.

About this time he invested his ready money in dry goods, and started a store in Bainbridge, with a younger brother in charge. But he was not made for a dry goods man; for he soon sold out, and repeated the experiment in Crawfordsville, Indiana, but still with unsatisfactory success, and again he went south.

In the meantime his brother Joseph had studied dentistry, and located in Maysville, Ky., and one of the younger brothers went to study with him, and at least four Taylor brothers were dentists.

In 1842 Dr. Taylor, determined to locate permanently, purchased the office, fixtures, good-will, etc. of Dr. Rostaing, in the city of Cincinnati, which had then a population of some 60,000. His brother Edward was then practicing in Louisville, Ky., but was offered and accepted a partnership with Dr. T., and the two brothers soon gained a pleasant and lucrative practice. Some time after Dr. Edward's health failed, and a brother, Dr. Joseph Taylor took his place.

While practicing in Cincinnati Dr. Taylor was offered a professorship in the Baltimore College of Dental Surgery, but declined. In 1844 he consulted with Drs. Melancthon Rogers and Jesse W. Cook, and together they applied for a college charter, and in 1845, the Ohio College of Dental Surgery, the second in the world, was organized. Dr. Taylor's chair was Practical Dentistry and Pharmacy. After fifteen or twenty years labor as a professor, he rested on the title of Emeritus Professor, but again resumed active lecturing, and was on full, active duty at the time he was called home.

Dr. Taylor was wide awake to the advantages of associated effort, and hence became, from the beginning of its existence, an active member of the first dental society ever formed, the American Dental Association. Mainly by his influence it came west for a single meeting, which was to have been held in Cincinnati, in August, 1854. But the meeting was postponed till May, 1855; and this postponement has an amusing, yet rather humiliating history. Prof. Elisha Townsend, of Philadelphia, was president. Some time preceding the date appointed for the meeting, he issued a circular stating that the Ohio river was so low at Pittsburgh, that steamboats could not go to Cincinnati, and as a large majority of the members resided east, it was unreasonable to ask them to travel by stage coach all the distance between these cities. Hence, as President, he took the responsibility of changing the time of meeting till the following May, as the river was always in good stage during the spring season.

This meeting was a small one, and members and visitors present concluded that the society had lived out its days of use-

fulness, and they arranged to hold an American Dental Convention in the following August, in Philadelphia. The old society adjourned to meet in New York August, 1856, and the Convention adjourned to the same time and place; and the good old society adjourned *sine die*, Dr. Taylor present and helping it to draw its last breath, being faithful even unto death.

Dr. Taylor was elected president of the convention and presided at its Boston meeting in 1857—not 1856 as some have stated.

The second dental society, and the oldest now in existence, is known as the Mississippi Valley Association of Dental Surgeons, and Dr. Taylor was one of its organizers, and was a member at the time of his death, having been all the time an active, influential and leading member.

The Mississippi Valley Association, in 1847, established the *Dental Register*, and elected an editorial committee of three, Dr. Taylor being one, and the only one residing at the place of publication, therefore, most of the editorial labor devolved on him. At a meeting of the M. V. Association, in 1853, it being generally considered that the *Register* was self-supporting, Dr. Taylor was requested to accept it, to which request he acceded, and thus he became at once proprietor, publisher and editor. More than once, at special request from the profession, he greatly enlarged the periodical, making it vastly more valuable to the profession.

Dr. Taylor was connected with the *Register* till the close of its ninth volume, when he transferred it, by sale, to Drs. J. Taft and Geo. Watt, but his pen was not laid aside to rust, as his many valuable contributions to our professional literature can testify.

Dr. Taylor was three times married, yet, like many other brain workers, he was left childless. His first marriage occurred in 1838, and the first wife died in 1858. He again married in 1860, and was again bereaved in 1873. In May, 1876 he wedded again, and this wife survives him.

The death of Dr. Taylor occurred June 12th, 1881, from paralysis of the heart, probably caused by overwork. Appropriate action was taken in reference to his death, June 14th, 1881, by the dentists of Cincinnati and vicinity. A report of this action may be found in the first volume of the OHIO JOURNAL, at page 227; and the editor's expressions referring to the same are found at page 233.

For the excellent portrait of Dr. Taylor adorning this num-

ber, we are indebted to the kind courtesy of his nephew and surviving partner, Dr. J. I. Taylor. His former students will fancy they hear him lecture when they look at it.

This sketch has been prepared when severely tried by personal embarrassments; yet it has been a labor of love, and consequently pleasant. If any think too much of the space has been given to the times preceding the professional life, let such consider that to understand the physician, the dentist, lawyer, or minister of the gospel, you must understand the man from which he has been made; for it is certainly quite as true that

“The boy’s the father of the man,”

As “night’s the mother of the day.”

Besides, the professional career of Dr. Taylor is “known and read of all men,” while but a few know his labors and trials that led him along into his sphere of usefulness. All who were familiar with his early life were, like Dr. Jones, not at all surprised at his success, for they knew that the root of the matter was in him.

CHEMISTRY AS APPLIED IN DENTISTRY.

BY L. P. BETHEL, D.D.S., KENT, O.

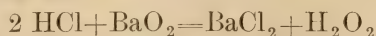
It is our intention in the following notes on chemistry, to present, in a concise and practical way, the leading features of different elements that are important to consider in the study of dentistry, and that should be familiar to every practitioner, and especially to every student of dentistry. The subject as presented consists of notes gathered here and there, intermingled with original thoughts; and if we err in our statements we sincerely hope our kind brethren will not hesitate to make corrections and thus aid us in the study of this profound science.

In taking up this subject we assume that our readers have a general knowledge of chemistry, and therefore do not consider it necessary to go into detail, and consider all the elements that may be found in chemical works in general.

Beginning with hydrogen, because it is the unity of weight of the gases, we find in itself no particular features of special interest to the dentist, but some of its compounds are exceedingly so. Take for instance

PEROXIDE OF HYDROGEN.

Hydrogen dioxide, or oxygenated water, as you choose, and it is found to consist of two equivalents of H and two of O, thus expressed by H_2O_2 . Nothing more or less than one volume of O added to each volume of water, (H_2O). But herein lies its virtue: It is prepared by the action of two parts hydrochloric acid ($2HCl$) upon barium dioxide (BaO). When thus treated the following reaction occurs:



resulting, as you see, in hydrogen dioxide, H_2O_2 , and barium chloride, $BaCl_2$.

It can be prepared also by passing carbonic acid gas (CO_2) through water (H_2O) in which is barium dioxide (BaO). The reaction taking place is



Barium carbonate, ($BaCO_3$), being precipitated as a white powder, which is insoluble in water, and the extra atom of oxygen contained in the carbonic acid gas, or carbon dioxide, unites with the water to form hydrogen dioxide solution H_2O_2 .

When concentrated it is of a syrupy consistency, having an acrid taste. It parts very readily with the extra atom of oxygen, and hence it is a very unstable compound. At 36° F. the gas is slowly given off, and as the temperature is increased the evaporation becomes more rapid. Exposing it to light also hastens evaporation; hence the necessity of keeping the solution well corked and in a dark, cool place. The aqueous solution ordinarily used does not, however, part so readily with its oxygen, although it is quite essential to use these precautions would we keep the liquid in a good state of preservation.

When peroxide of hydrogen comes in contact with animal tissue, or organic material, one half of its oxygen is readily separated and acts on them. It is this quality that makes it useful in suppurative diseases of the mouth as alveolar abscess, diseases of the antrum, pyorrhœa alveolaris, etc. When injected into the pus pockets of pyorrhœa an effervescence immediately follows, supposed to be due to the evolution of carbonic acid gas, caused by the action of liberated oxygen on the tissues. When thus liberated, the oxygen is in its nascent condition and acts to its fullest extent on the organic material, oxidizing and destroying the

germs, or microbes, that may be contained in the pockets. The liberated oxygen unites readily with the sulphur and hydrogen of the tissues, which union results in the formation of sulphuric acid, (H_2SO_4), and carbonic acid gas. The sulphuric acid acts as a stimulant to the surrounding tissues, and excites them to healthy action by glazing over the pus producing area, and thus allowing the protoplasm to form new tissue.

HYDROCHLORIC ACID.

Hydrochloric acid, (HCl) is formed by the union of hydrogen and chlorine in equal equivalents of the gases. In its true state, HCl is a colorless gas, but readily unites with water, one volume being capable of absorbing 432 volumes of the gas, in which proportions we find it at the drug stores. It is readily made by treating common table salt (NaCl) with sulphuric acid, (H_2SO_4). The reaction is as follows:



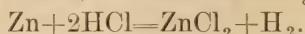
resulting in hydrochloric acid and hydrogen, sodium sulphate. This acid is one of the supposed factors in the production of caries of the teeth. It is not definitely known just how HCl is formed in the mouth, in sufficient quantities to produce decay, but it is thought that the brown decay is the result of its destructive action on tooth material.

Teeth have, undoubtedly, been affected by the medicinal use of HCl . It is known to exist free in the gastric juice, in proportion of about 0.2 per cent., and is often thrown into the mouth in vomited matters, and in eructations. It has been detected in abnormal saliva, and its presence there, in the mouth, is probably due to the decomposition of soluble chlorides of the saliva, by which chlorine is liberated. This having a strong affinity for hydrogen immediately combines with the hydrogen of the water in the fluids of the mouth, and HCl results, which, in its nascent condition, attacks the tooth substance. In a concentrated form it dissolves animal tissue. Its escharotic effect is due to its affinity for the water in the tissues, and its power of coagulating albumen.

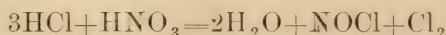
To test for this acid, take the fluid, and if of alkaline reaction, acidulate with nitric acid (HNO_3), and if the acid be present, a white precipitate will appear. Further, add nitric acid to

the solution and boil. The precipitate does not dissolve. Filter and treat the precipitate on the filter paper with warm ammonium hydrate (NH_4OH), and if the precipitate dissolves it shows the presence of hydrochloric acid.

In the dental laboratory it is used in dissolving zinc to form a flux for soldering. The flux thus formed is not hydrochloric, or muriatic acid, as is quite generally supposed, but is an aqueous solution of chloride of zinc, the reaction being as follows:



The chlorine, having a greater affinity for the metal zinc than for the hydrogen of the acid, unites with it to form zinc chloride and the hydrogen is liberated. This unites with the oxygen of the air and the combination forms water (H_2O), thus we have an aqueous solution of chloride of zinc as the result of the reaction. This acid attacks most of the metals, but has no effect upon gold or platinum, only when united with nitric acid in the proportion of three parts HCl to one of HNO_3 . The reaction then occurring is as follows:



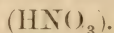
water, nitrosyle chloride and free chlorine result. The nitrosyle chloride passes off as a yellowish red gas, but the free chloride attacks the gold, dissolving it, forming trichloride of gold (AuCl_3).

Hydrochloric acid readily attacks aluminum, which is the principal objection to using this material for the base to artificial dentures. The action of HCl on this metal being

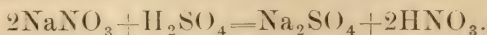


forming aluminum chloride by liberating the hydrogen.

NITRIC ACID.



This acid can be prepared by treating sodium nitrate with sulphuric acid.



Nitric acid and sodium sulphate resulting. The specific gravity of the strongest acid is 1.52, but of the commercial acid (*aqua fortis*) only 1.29. In the concentrated acid there is about 68 per cent. of nitric acid, but only about 46 per cent. in ordinary *aqua fortis*. HNO_3 acts on all the metals except gold and platinum, yet does not thoroughly dissolve tin and antimony. Its great

oxidizing powers are due to the readiness with which it gives up its oxygen, 67 per cent. Sometimes the acid will seemingly not act on some of the metals as iron, tin, etc., in the concentrated form, but readily attacks the metals upon addition of water. This is supposed to be due to the fact that metallic salts, resulting from the first attack of the acid, being insoluble in the concentrated acid, cover and protect the surface of the metal from further action; but by the addition of water they are washed down and dissolved so that the acid then acts very energetically. In the case of iron the coating is probably magnetic oxide, which is very sparingly soluble in strong nitric acid.

When any of the metals capable of decomposing water, as zinc, tin, aluminum, lead, copper, iron, etc., are dissolved by HNO_3 ammonia is always formed, its quantity increasing with the degree of dilution. Take for example the metal zinc when acted on by dilute HNO_3 , it has an affinity for the oxygen of the water and the liberated hydrogen in its nascent state unites with the acid to form ammonia and water, besides the zinc oxide. Reaction :



HNO_3 when heated to redness is decomposed into nitrogen tetroxide, water and oxygen. When exposed to the light and air, at the ordinary temperature, the same change takes place, giving a yellowish tint to the acid, and diluting it. The fumes that arise from decomposing nitric acid are chiefly nitrogen tetroxide and, although not offensive, are dangerous to life. During such operations, or in cases of accident by spilling HNO_3 , the operator should be supplied with plenty of fresh air and retreat from the fumes that arise.

Autopsys of persons poisoned by inhalations of this gas, show the lungs to be filled with a black fluid. Iron has an affinity for the gas and we may suppose the destructive influence is due to the absorption of the gas by the iron in the tissues and blood. This would clog up and destroy, to a certain extent, the minute air cells, and the proper oxygenation in the lungs could no longer be produced.

Nitric, as well as all mineral acids, exerts a destructive influence on tooth material, and is supposed to be the prime factor in the production of white decay of the teeth. Its presence in the mouth is explained by Dr. Geo. Watt as follows :

"It is a singular fact that though nitrogen and oxygen manifest but little affinity for each other, yet they unite in various proportions, forming at least five well known distinct compounds. It appears, however, from a variety of circumstances, that their tendency is to unite in the proportions which form nitric acid. The protoxide is decomposed and yields nitrogen, oxygen and nitrous acid. The binoxide, if brought in contact with the atmosphere takes from it two equivalents of oxygen, and also becomes nitrous acid. Hyponitrous acid on admixture with water, is converted into nitric acid and binoxide of nitrogen in which case the latter will be converted into nitrous acid, which, in the presence of water, is converted into nitric acid and binoxide of nitrogen.

It follows from this that, if oxygen and nitrogen unite at all in the mouth, let the proportions be, at the first, what they will, nitric acid must be the ultimate result, as air and moisture, the only agents necessary in the transformation, are here always present.

The reader will now think of the mucus, and particles of nitrogenous food lodged about the teeth, undergoing decomposition and yielding nitrogen to the oxygen of the atmosphere, or of the fluids of the mouth, and will conclude that all is explained. Well, perhaps it is. But let us consider. Nitrogen is emphatically a 'conservative' element and manifests but little tendency to unite with anything, and especially oxygen. It is probable, therefore, that these two elements unite indirectly. It should be borne in mind that organic nitrogenous bodies contain hydrogen and oxygen as well as nitrogen. Consequently, by their decomposition, these elements are all liberated. The mutual affinities of hydrogen and nitrogen take precedence, and the result is the formation of ammonia. But ammonia exposed to the action of oxygen is always decomposed; oxide of nitrogen is formed and of course *nitric acid* is the result."

The test for nitric acid can be made by the introduction of brucine or any of its salts into the liquid. If the acid be present, the fluid assumes a red color, or a greenish-blue solution of cupric nitrate is formed by the addition of metallic copper.

When applied to animal tissues an escharotic effect is produced, and if prolonged a disintegration occurs. A peculiar and permanent yellow stain is a characteristic of this acid. It is

effectually used as a caustic in ulceration of the mouth on account of its oxydizing qualities. Where the teeth have been worn away by mechanical abrasion, and the pulp is nearly exposed, the acid is sometimes applied to the grinding surfaces of the tooth for the purpose of devitalization.

(To be continued.)

OHIO STATE DENTAL SOCIETY.

TOLEDO, OCTOBER 26, 27, 28, 1886.

[Reported expressly for the JOURNAL.]

(Concluded from *December Journal*.)

TIN AND GOLD COMBINED FOR FILLINGS.

DR. J. TAFT: What is the object of using a combination of tin and gold, instead of soft gold?

DR. BROPHY: You can manipulate the soft gold as easily as the tin and gold, but, in the *Independent Practitioner* for August, 1884, Dr. Miller, of Berlin, earnestly advocated the use of tin and gold. He claimed that, twenty years before, Dr. Abbott, of Berlin, had made such filling. Miller thought it the best amalgam filling he had ever seen, cut into it and he was astonished to find it tin and gold. Miller claims that it has prophylactic qualities, which I do not fully endorse, and that it becomes harder than gold and harder than tin—crystallizing in the cavity. He also claims that slight moisture does not impair its qualities and therefore it is useful in filling children's teeth. It can be burnished down after the manner of Herbst. You roll together a strip of No. 4 gold and a strip of pure tin foil, when done it resembles a barber's pole. The advantage of soft gold is, that if a mass of it is struck in the centre of the plugger it will spread, but a mass of cohesive gold, will draw, to the centre. I have a little lip or annex to my matrix to go below the gum, at the cervical margin, it is slipped on the matrix and the ligature is carried down out of the way and retained by it, but not necessarily forced into the gum. I do not think it good practice to attempt to put cohesive gold into that position (at cervical margins below the gum.)

DR. ALLPORT: Quite likely, Mr. President, I had better not have made use of the word clumsy, which Dr. Rehwinkel takes exception to, when I referred to Dr. Herbst's instruments, for, as he says, many of them are very small. Illy adapted, I presume would have been a better term, for straight instruments, no matter how small or delicate they may be are not well adapted to working around corners, or into deep or hidden under-cuts, any more than the straight course of a ball from a rifle is calculated to follow the angles or crooks in a rail fence.

As reference has been made here to the practice of combining gold and tin foil as a filling material by folding two or more leaves together because they can be more easily packed than gold alone, and also that in time the two metals become crystallized and hard, I want to add that while both of these claims are true, they are, in my mind, not the most important reasons for the practice. It is said that there is no difference which of the two metals is folded upon the outside and comes in contact with the tooth. This I believe to be a mistake, for the sulphide of tin produced by the combined action of these metals and the fluids of the mouth, is a powerful antiseptic. The product being insoluble in the fluids of the mouth, its action is not only continuous in preventing decomposition, by virtue of its antiseptic properties, but it also acts as a permanent filling and makes good, or fills up minute defects between the filling and the tooth—an advantage not so fully derived when the gold is placed in contact with the tooth. Gold alone has no beneficial therapeutical effect upon a tooth, while tin has. Tin not only prevents decay by preventing the ingress of the fluids of the mouth, but by its antiseptic properties. In using these metals in combination therefore, I always place the tin upon the outside, or next to the tooth. Forty years of experience and observation teach me that largely by virtue of its chemical products in the mouth, of all the filling materials known, none acts more kindly upon the dentine, or is so sure to prevent or arrest decay, as tin.

DR. A. W. HARLAN, Chicago: What is the history of this Herbst method? Planishing gold isn't new. In 1874 Dr. J. Taft filled a tooth before the Illinois State Dental Society by bur-nishing bits of gold into the cavity, that proves its antiquity. [applause]. Years ago both Shumway and Chance advocated planishing gold with smooth points. Why it is as old as the hills. What is the object in filling; to fill the cavity or restore the con-

tour of the tooth? Dr. Allport says it involves a great sacrifice of tooth substance, but didn't the old methods involve a greater sacrifice? It cannot be made to take the place of hand pressure or mallet. You cannot restore the contour with rotation and soft gold. I say this dogmatically because I believe it. [laughter.]

A method that involves the holding of the gold with a matrix until you get it all in, does not commend itself, (I refer only to the Herbst method and matrix). Does any one contend that pressure will make non-cohesive gold cohere, so as to withstand the force of mastication? This is one of the most misleading things to inexperienced operators and slovenly operators that has ever been published. [applause]. I have tried this method. More than two years ago I got a full set of these instruments, rose-shaped, cone-shaped, etc., etc., burnishers, and filled teeth in and out of the mouth, and have had all I want of it. I don't propose to abandon in a day, a method I have labored twenty years to acquire. Suppose you can fill a cavity in fifteen or twenty minutes. Why I can pack a book of gold into a cavity in twenty minutes, so can Allport or Rehwinkel [REHWINKEL—No I can't.] What's the condition of dentistry in Herbst's own country? There are hundreds of dentists in Germany who do not use an eighth of an ounce of gold foil in a year. I have been in Germany and I have seen there more amalgam, more oxyphosphates and chlorides, in front teeth, than in any other portion of the whole world. Dr. Herbst is an ingenious gentleman, but his method has not been adopted in his own country. Of course that is not a proof that it is not good. Because the dentists of Chicago do not adopt a common sense method of treating alveolar abscess, that doesn't say the common sense way isn't a good one. Any method of filling which requires, in every instance, that a cavity be banded in order to fill it, is wrong.

As to tin and gold. Tin is not as good a conductor as gold, and that is one reason why it should be used. We have as a result of the decomposition of the tin in the mouth, the oxide, the binoxide, the chloride and the sulphide. The *oxide* is soluble in acids present in the mouth. The *binoxide* is insoluble in acids but will combine with alkalies and their carbonates and is then soluble in water. The *chloride* is moderately soluble in water and blackens very slightly, but in the presence of water an *oxychloride* is obtained. The *sulphide* is insoluble in water or in the presence of alkalies unless there be an excess of sulphur. 'If there be any

therapeutic action of tin on the tooth it is either as an oxychloride or a sulphide. I know that this combination of gold and tin becomes hard. In removing a filling, put in ten years ago, on account of sensitiveness to thermal changes, I found the filling hard to cut and the sensitiveness had disappeared. I, and no doubt many others, have used the thin steel between the inferior incisors, in filling proximal cavities, for years. I thought everybody did that, and so never said anything about it.

DR. W. H. DORRANCE, Ann Arbor: Tin hardens the dentine in a sensitive tooth and makes an insoluble filling.

DR. C. H. LAND, Detroit: Have used tin, experimentally, for four years, and in that time have found twenty cases of crystallization.

DR. H. A. SMITH: I remember a filling of Dr. Allport's that was a marvel to me and satisfied me that tin and gold had properties of crystallization. I thought it was amalgam. Had been in eight or ten years on the proximal surface of a second bicuspid. It was a beautiful filling, with the margins perfectly preserved. Have never seen any explanation why we have this crystalline result.

DR. F. H. REHWINKEL: We ought to congratulate ourselves that there is one subject on which the State Society is unanimous and that is tin. [applause.]

DR. T. W. BROPHY: I don't think it quite fair to say that Herbst uses his matrix to hold his filling. It is to give shape or form to the cavity and filling.

DR. J. F. SIDDALL: A matrix is sometimes necessary to hold fillings after they are in. [laughter.]

Dr. George W. Keely gave an account of a tramp of "a long time ago" who used to travel between Oxford and Indianapolis. He usually bought his gold foil in pound lots and used hand-pressure in filling. [We presume he referred to our old friend, Merchant Kelly, of whom we may give some sketches later on.—ED.]

OPERATIVE DENTISTRY.

BY DR. J. A. ROBINSON, JACKSON, MICH.

[Read before the Ohio State Dental Society, Toledo, October, 1886.]

TO KEEP up with the improvements of the age for fifty years is no small task. It is a mark of genius to be able to make progress to the end of life; to overcome the hindrances that beset

us and keep our feet from sticking to the clay of old age. The temptation of age is to rest, to work prescribed hours and draw pay; or not to work at all and be satisfied. We go back and lose power when we cease to become greater than our work, for to make progress at all, we must be greater than the labor we perform. When the work is greater than ourselves we invariably fall behind, become old fashioned and are superannuated. To make progress is the blossoming fruitage of what we have gained in information and culture; and in dentistry, in science, in art, and in mechanics, and the art is only successful when carried out on scientific principles. As a profession we shall be what the aggregate of what each individual has become. If we fail it will be because there is not light and knowledge in the individuals; *but we shall not fail!*

The same humanity belongs to all, and the effort of the mass will make each individual excel. Of course there will be different efforts, tastes, and different gifts; but the effort of each individual will place us all on a higher level. If A succeeds better than B, it is, as a rule, because he has made greater effort. To keep pace with all the improvements in our own profession, we must be students, and read and understand every thing pertaining to our calling.

Operative dentistry means every operation upon the teeth and gums, and everything that pertains to the oral cavity. It means every appliance necessary to do the work of preserving the teeth, and some knowledge of therapeutics, chemistry, metallurgy and mechanics, and the skillful use of tools. It means the improved methods of the old plans that were true in saving teeth. Nine-tenths of the employment of the dentist is in filling teeth. The first requisite to good fillings is to be able to see what you are doing. So in molars and bicuspid the openings must be made free either by wedging or chiseling or the engine bur. It was a common practice in Boston fifty years ago among good operators, to extract a molar or a bicuspid tooth, if partially decayed, to save by filling the adjoining one, as the space would be sufficiently large to insert a good filling in the old fashioned way, with such instruments as could be obtained at that time; for every dentist was obliged to make his own instruments. Another essential is to prepare the cavity to receive the filling, and by this I do not mean so that the filling will not come out, but

with such care as will make it easy and possible to hermetically seal it and make it impervious to all outside influences. What can I say to impress upon you the importance of properly preparing cavities? If you would spend one half the time you spend in finishing your fillings in preparing the cavity, you would be great gainers in the end and do more good. Where there is chemical abrasion on buccal surfaces and a milky whiteness to the enamel, it is useless to try to preserve such teeth without that milky enamel is thoroughly removed.

In reading the descriptions of the Herbst method of filling teeth, I was pleased to learn that he stated that it was necessary to often examine the borders of the filling with a fine, sharp point as the work progressed to see that the gold was absolutely in contact with the walls of the cavity, because the success of every filling depends on that word care. If the method be pellet, or ribbon, or Herbst, the success will depend largely upon such examinations of the borders with a fine instrument to see and know that your filling is absolutely tight against the walls, and any method will be a success that is done in that way.

Having been taught in the Harwood and Tucker school it is easy and natural to follow the pellet plan with soft foil along the margins, and especially as some of our best young men still advocate their use. I think this method more nearly corresponds to the Herbst plan without the use of the engine, because he uses soft foil borders. But because we do this, we should not ignore the great advance that has been made by the combination of cohesive and of heavy foils. It is the skillful combination that makes success, and not insisting that either way is always and wholly right. Our successes in difficult operations are so much in advance of ancient dentistry that comparisons are inadmissible. All annealed cohesive foil should be as heavy as No. 6 and so on to No. 60, from the fact that the crystals have become so flattened in process of beating that it requires about 400 degrees of heat to raise them to the best welding point, and thin foils are liable to be burned at the ends of the crystals in passing through the flame in process of annealing. Use finely serrated points near the finish, and lastly a smooth mallet burnisher. To be certain that there are no depressions in contour fillings that will disgust you, take a sharp straight file and file from point to cervical wall, as the carpenter would use his jointer to level a piece of

wood, it will not destroy the welding properties in the depressions, but will expose them that they may be filled before the final finish, if the file has been carried evenly across the face of the contour. How many times in large fillings we would give half the price of the work if we could finish out some little depression that annoys us. When a section of a tooth is to be replaced, if you have no screws, take a piece of thin gold plate of suitable width and the thickness of a separating file; bend it at right angles and place it in the hole drilled for the screw, leaving the trough toward that portion of the tooth that remains, and fill it tight into the hole and use it as you would a screw; the little grabs on either side of the gold will hold the filling even firmer than a screw and the gold trough is stiffer than the screw. Take strips of foil rolled on napkin-like cylinders, from one-half to three-quarters of an inch in length and weld one end on a line with the tooth, and returning weld the other end in the same line; then upset the end that comes below the point or cutting edge of the tooth, as a blacksmith would upset a piece of iron or steel for strength; lay these long strips lengthwise of the tooth and bind across the strips with heavy gold running to the edges of the cavity with gold as heavy as No. 60 and your contour will never come off. If the hand is so moist that it will rust your instruments, do not allow the gold to come in contact with it as it will destroy largely the cohesive quality. The best test is to rub the palms of the hands together, if they give a rustling sound, such as the farmer hears when he decides his hay is dry enough to be put into the barn, the hand will not injure the cohesive quality of gold. In finishing fillings, if you wish to do better than others, finish with strips; but if you wish to beat yourself, finish with disks. Never use a flat-faced point near the border of enamel; foot pluggers should be conical on the face to prevent checking the enamel borders, similar to Butler's No. 16, but with a longer foot, and the mallet burnisher should have the same form. The dentist is made strong by the combination of methods he includes, rather than by what he excludes, and his dentistry will be the same.

I have carefully looked through the whole catalogue of pluggers to find a universal one that is fit to weld cohesive to soft foil, or tin foil, or fibrous filling, and cannot find it. I will see if I can prescribe one: Take a No. 18 plugger, White's cat-

alogue, and twist the point just half around like a cork-screw, so that it will be on a line with the shank, and have the twist begin three-fourths of an inch from the point, then sharpen the point to a stunt knife blade cutting edge; serrate with two serrates like No. 18. This will leave three fine points with two serrates. Sharpen with a stone to an edge and it will unite everything. If you wish to reach undercuts have the twist shorter, but always observe the rule to twist half round and have the point to follow the shank to receive a direct blow from the mallet. By passing such an instrument as this around the filling near the margin of the cavity and spreading the gold against the borders, you can successfully stop all leakage and at the same time prepare the surface for the heavy foil of the finish. Of course use finer serrates and a mallet burnisher for the final finish. Cohesive gold will spread more easily over the soft foil base than a cohesive foil. Nine-tenths of the failures commence at the cervical walls in molars and bicuspid teeth, hence the necessity of great care in preparing the cavities. A spoon-shaped excavator will leave the cavity in better shape at this vulnerable point, and hand pressure is safer than mallet force. The matrix is essential to success. I use fibrous material in all dangerous places believing that it is the best material known for the average operator. Fibrous filling is more easily finished, more compact, checks thermal changes, when it is finished it has antiseptic qualities, and if it turns black it is of no consequence if it only saves the teeth. It will not turn black unless it is overlaid with gold. When we can express with the fingers what is formed in the mind we shall succeed and not before. If there is a deep undercut at the cervical wall that impairs the integrity of the filling, there will be failure at this most vulnerable point. It is a good thing to wipe out deep-seated cavities with carbolic acid before filling, as it mitigates the pain in filling and also after the work is completed.

The successful operator in carrying out any system of filling teeth, must carry out to the letter not only the plan laid down, but the instruments necessary to do the work. The Herbst method must have the point, the bulb and the engine if he expects success; so the filling with pellets must be done with graver-pointed instruments to perfect the packing of soft foil. The best description I can give of the graver-pointed plugger is a medium sized excavator with the point broken off one-third, and

sharpened on all four sides, and on the end to a fine cutting edge on an oil stone. This instrument will carry the pellet before it and never pass through it, and having no serrates on the end will leave no pockets. In making pellets take a sheet of foil and cut it into halves and cut each half crosswise into four or five pieces. Crimp these pieces on the fore finger of your left hand or on a napkin with a knife, double them in the middle, fold in the edges and give it a slight roll between the thumb and finger. Before placing them in the cavity, anneal the but-end, and carry them to the walls of the cavity until they stand round the walls like the fingers on the open hand, but always packing against the cervical walls first until the cavity is at least half full, and have each piece go to the bottom of the cavity and reach a little above the margin. By packing gold in this way and with this instrument you will keep your cavity as large at the bottom as it is at the top until the last piece or wedge of cohesive foil, and you will have a surface of annealed foil to receive a finishing of heavy cohesive foil. The Herbst method may supercede all other methods in time for the filling of teeth, but it will not become universal this year, so I have ventured to give an old plan to the young practitioners. The points of resemblance between the Herbst and the old are these: Herbst commences with a large cylinder; the Tucker plan with a large pellet. Herbst uses a German-silver matrix soldered; we use a thin steel matrix tempered to a spring temper, or a matrix of wood. Both finish with cohesive foil; Herbst packs with rotary motion with smooth instruments and the engine; we use smooth sharp points and hand pressure. Both use soft foil margins. The folding of pellets belongs to Tucker, the graver-point to myself. If after protracted operations you have soreness of the tooth and inflammation, chloroform is king of pain after filling, and in fact of almost any degree of inflammation that precedes suppuration. Depletion of the gums with the fine point of a spear-shaped nerve instrument for scarification, will immediately arrest all inflammation, and in cases of soreness I provide my patients with a small bottle of chloroform to take with them on leaving the office to bathe the gums after severe malletings. If you have exposed pulps and inflammation so the patient has toothache, treat with strong carbohc acid to paralyze the pulp and reduce the inflammation by depletion of one or two drops of blood, your success is

almost certain if capped with oxyphosphates. The only danger in capping pulps is in the displacement of the cap. Two or three years ago I wrote about filling a tooth in sections to obviate that difficulty. First cut out the cap at the cervical wall and fill half full, and over one-half the cap with soft gold foil, textile foil, or tin to secure it in position, then remove the other part of the cap and fill in the usual manner, using great care not to crush the cap, as the little particles of the crushed cap will produce extravasation of blood that will be followed by inflammation and suppuration. If the work is properly done it will be successful and the pulp will remain alive.

In all remedies for cure of the disease known as pyorrhœa alveolaris the solution of the problem is to heal by first intention; the injured parts must be hermetically sealed to insure success. Whether the disease is produced by microbes or the excrementations that follow in their track is not positively known. If the disease is caused by acid excrementations, carbolized potash will neutralize the acid until it is harmless; and if it is caused by the microbes the carbolized potash is powerful enough to destroy their life, and it will close the pockets more effectually than any remedy I have known; and so I predicate my theory upon the hypothesis that having thoroughly removed all necrosed bone, if such a thing exists, by amputation, the lesion must be covered as in any accident to the human body or any wound you would heal by first intention. The carbolized potash applied on cotton fibres will extract the débris when the cotton is removed and cauterize the alveolar border and leaves a fresh wound to be healed from within, as all cure and all life must come from within. If the disease is caused by a calcareous deposit, either in incrustation or loose particles combined with animal matter, and the general filth of the mouth to produce a pus-sac that forces the margin of the gum from its normal position, there will be loose gums and a purple line along the border just below the festoon of the gum and it will stand out from the tooth; this must be removed with an instrument (a chisel) running toward the apex of the tooth before applying your remedy.

The carbolized potash is very efficacious in another form of disease known as sanguinary calculus caused by engorgement of the blood vessels along the border of the alveolar process, that produces a bright red line with small shoots or branches just

below the border of the gum; but this will yield by persistent and frequent use of carbolized potash known as the Robinson Remedy. Before the word pyorrhœa had become generally received to designate this form of disease it was called struma or scrofula of the gums, and was treated with nitrate of silver, chloride of zinc, or creosote, on the point of a sharp stick, but it generally resulted in loss of the teeth; since we have more thoroughly understood the disease there are but very few cases that will not yield to treatment. In very obstinate cases where the secretions are ropy, stringy and viscous, with dentine so sensitive you can hardly touch it, I pack the interstices and gums with prepared chalk every night for a week or ten days and success is certain. When carbolized potash is used as an obtunder to sensitive dentine or over an exposed pulp, it will produce slight pain; the potash turns the fatty portion of the pulp into soap and combining with the albuminous matter they both form an eschar that adheres to the surrounding border of the dentine and leaves the portion of the pulp as healed by first intention, and alive if the eschar is not broken in subsequent capping or filling of the tooth. There are sometimes cases (though sometimes means not often) of acute inflammation of the pulp that refuse to yield to conservative treatment, that must be destroyed and removed. In such cases apply the one-thousandth part of a grain of arsenic on fibres of cotton moistened with carbolic acid, directly, if possible, to the pulp; after four or five days of rest remove the entire pulp from the pulp cavity and canals with a Donaldson nerve bristle, and enlarge the canal enough to have free access *and no more*. I use carbolic acid on cotton fibres in the pulp canal to remove soreness after the operation and fill the canals with cotton. Use repellant cotton or common cotton as it is filled with oil and will not absorb moisture if any should remain to produce gas and inflammation. In the event of unexpected soreness after the operation of filling, drill a small hole to the pulp cavity and apply chloroform and you give immediate relief through the cotton, which cannot be done if the canal has been filled with oxyphosphates, gutta-percha or metal. You will find among White's instruments a small, square handled, steel instrument, marked "Gates's patent," "special order," that is the only good, better and best instrument I have found to put fillings in the canals after extracting the pulp. In cases where you have

subsequent trouble and soreness, do not remove the filling but drill a small hole on a line with the root you wish to reach and treat with cotton fibres wet with chloroform or tincture of aconite and iodine, equal parts, until the soreness is removed, then fill the hole you have drilled and you will save all further trouble and save the tooth. Soreness of the tooth and toothache, though they may be combined, are not the same, and do not often proceed from the same cause, the one is inflammation of the pulp and the other inflammation of the surrounding membrane.

It may be maintained by some that it is not good surgery to place cotton at the mouth of a wound; but cotton fibres filled with carbolic acid or a fine rope that can be packed tightly at the foramen, form a complete eschar at the extreme end of the root like a cork in a bottle; and if the balance of the canal is left open to the pulp cavity it will do no mischief. I have had occasion to treat roots temporarily in this manner, and fill temporarily with Hill's stopping that have remained many months and when removed there was no odor or subsequent pain or trouble.

In this paper, (that is altogether too long,) I have only suggested some things that may help to leave "foot-prints in the sands of time," that will assist a brother on his way and contribute my mite to the meeting, and renew some old friendships with new expressions of love, without which, as St. Paul says, we are as "sounding brass and a tinkling cymbal."

DISCUSSION.

DR. C. R. BUTLER: There is no antagonism between this textile fibrous filling and foil. The diverse opinions are caused by the difference in the manner of manipulating it by various operators. Have used it ever since it was first introduced until the day before I left for this meeting. The longer you use it the better you like it. Some men who are experts in the use of tin may fail with the textile foil because they do not thoroughly pack the latter into the cavity. Use only small pieces. If you use large masses you will be fooled in the filling. Properly inserted it is nearly as solid as cohesive gold.

DR. C. H. HARROUN: Burnishing, or rubbing it in, gives better results than with serrated points.

DR. J. A. ROBINSON: Textile foil is made of pure metals

only; tin, platinum and gold, cut with a machine and packed in the manner in which you receive it. Prof. Flagg has analyzed it and found it as I have stated.

DR. W. H. DORRANCE: Dr. Robinson once said that when a man got to be sixty years old he ought to be shot.

DR. ROBINSON: When I said that I was a young man and I have changed my mind. When I reached sixty, my daughter, who is married and quite well to do, wrote me to leave off practice and settle down with them in Dubuque, Iowa. My answer was that I was good for something better than settling down to carrying in kindling-wood and wheeling about the baby-carriage. [Laughter and applause.]

DR. W. H. DORRANCE: I use fine binding wire instead of the silk ligature to carry down the rubber dam.

DR. J. R. CALLAHAN: I find that the Herbst method makes a more solid filling of fibrous foil than can be made with serrated points and the mallet.

ITEMS OF INTEREST.

BY C. R. BUTLER, M.D., D.D.S., CLEVELAND, O.

[Read before the Ohio State Dental Society, Toledo, October, 1886.]

AT the very threshold stands the interrogator, confronting us with, Items of Interest to, or for, whom? If we were to take the seductive statements that are to be found in the avalanche of announcements in the journals and elsewhere, we would be constrained to admit that the manufacturer had nothing but items of interest for every one, and dentists in particular.

Now let us take a glance at facts from a practical standpoint, rather than on the sentimental line. It is said that the public press wields a mighty sword; but it does not take a very wise head to see that it is not used to lay bare and magnify the truth, that the loathsome spirit of contention and untruth may not have room to display its hideousness and depravity. Some of the literature claiming to be "published in the interests of the profession," has a hook for the suspension of a bruised head, a scratch or a thrust that a captious member was decorated with by another pugnacious one; both thus securing a free advertisement that they were at a meeting of the —— society; an item

of interest that should be decapitated by the sword of professional pride.

The items of interest and of value that have come from the large and small manufactories, are only to be computed by the thousands, and still the effort is to get something new and novel. Machinery is all the rage, and the more complicated and expensive, embodying much of unsightliness, the more desirable. And are the dentist and his patients so greatly blessed that they should drop on their knees and exclaim, Oh thou god-machine, make me thankful morning, noon and night with the thought that brains and common sense are no longer needed as an essential element in making up a really skillful dentist.

But with a portable or a cycloid chair, an engine, an electromagnetic, or the mechanical mallet, dies and forceps for crown work, or the instrumental array of How's system, a cylinder gum-lancet to be used with the engine, the complicated and clumsy chip blower, also to be used with the engine, a guide rubber dam punch of no practical adaptation, as compared with the forceps punch, a new mode heater, or a dry-steam vulcanizer the latest for celluloid and rubber work; and not to have a set of Riggs' scalers, your outfit would be quite incomplete.

Armed with all these more than wonderful appliances, just put the patients in the chair, as lumbermen would a log upon the mill-carriage, set the machinery in motion and magnificent fillings, crowns and artificial dentures, to say nothing of the gum cutting, will be the result.

In all candor, gentlemen, can we answer the interrogator, by saying that these are items of interest such as earnest, intelligent people demand of manufacturer, publisher and professional men?

OBTUNDENTS FOR SENSITIVE DENTINE—THEIR VALUE AND MODE OF ACTION.

DR. H. A. SMITH: Dr. Harlan has stated to some of us that he has been experimenting with the Herbst obtundent and obtains better results by leaving out the sulphuric acid.

DR. A. W. HARLAN: If I understood aright the formula, as given here by some one in this meeting, is two drachms sulphuric acid to sixty grains of cocaine and two and one-half or three drachms of sulphuric ether. As originally published it was

stated that thirty grains of cocaine saturated two drachms of the acid.

DR. J. TAFT: That was my experience. Herbst did not give the number of grains.

DR. HARLAN: We find, by experiment, that it requires seventy grains of cocaine to two drachms sulphuric acid. We found that leaving a sound tooth, in a solution of this proportion, for two weeks had no effect whatever on the tooth. On one of the teeth left in this solution the dentine was exposed and after removal was found intact so that no injury to the teeth need be feared. In use we find that it must be applied and reapplied because it is self-limiting. A better obtundent is *ten grains of the alkaloid (crystals) of cocaine and ninety minims of sulphuric ether*. This makes a perfect solution and one application of it will act with more certainty than the Herbst and it is not self-limiting. A solution of fifteen or more grains is superior to the sulphuric acid solution. An exposed pulp can be removed easily and without pain after a few minutes contact with this solution (cocaine-ether). We know that ether is a refrigerant and anæsthetic and that it does not injure the cocaine.

DR. H. A. SMITH: Is the direct effect on the dental fibrillæ or is it on the pulp?

DR. HARLAN: I don't know.

DR. SMITH: In our use of these obtundents we proceed as if we could affect the true nerve fibres but we get only a superficial effect. The tubuli are in no sense nerve fibres. When you apply the excavator or the sulphuric acid you produce only a mechanical effect. According to Dr. Black, the pulp of a tooth in its normal condition is sensitive to only thermal changes. If a tooth is pulpless it knows nothing of the shock produced by cold or hot water; the effect is on the tissues of the mouth. The action of arsenious acid in obtunding sensitive dentine is very mysterious to me, unless it is by intussusception; it may be drawn in by the protoplasm of the dentinal fibrils and carried on by its current until it does reach the nerve fibrils, or the pulp, proper.

DR. C. R. BUTLER: If the arsenic was placed into a cavity dry would it be possible to produce the effect?

DR. SMITH: I believe that would be the best method to produce the death of the pulp. If these fibrils contain protoplasm they must be brought in contact with the agent. There is a

difference in the sensation produced by a sharp or a blunt excavator; the dentine has a certain amount of sensibility.

DR. J. TAFT: The effects of any obtundent will vary in different cases. Chloride of zinc sometimes removes the sensitiveness of dentine without pain, and often permanently; again the result may be the death of the pulp. Sometimes the sensitiveness returns, after various lengths of time, with the original vigor. Supposing the effect permanent I have introduced fillings and in a few days found a return of the pain with all its primary severity. In the use of the sulphuric acid there is a dissolution of the lime in the tooth.

DR. HARLAN: Isn't it the crystallization of the cocaine within the cavity rather than the decomposition of tooth substance?

DR. TAFT: I think not. So far as it breaks up the tooth substance it is an escharotic. In most cases the obtunding power is very good and one application is enough, and in others the effect is very superficial. As I have said before, this variety in manifestation is an important element in the use of any agent. We should bear in mind the great diversity in the organic constituency of the teeth.

THE CORRECTION OF IRREGULARITIES OF THE TEETH.

DR. TALBOT, Chicago: Until four years ago the mechanical forces in use in moving the natural teeth were six—the lever, the wedge, the screw, the inclined plane, the wheel, and the axle. Dr. Coffin, of England, was the first to add to the number and the first to use piano wire in regulating the teeth. The six mechanical powers mentioned are all cumbersome. An apparatus should be small, and easily removed by the patient for cleaning. The piano wire is the best material for regulating the teeth because the movement is uniform. There is a certain point in a spiral spring that gives a uniform pressure and if made large enough will produce uniform pressure for twenty-four hours. You can make these springs [the Talbot spring] I show you by driving one end into the bench, then twist the wire with a pair of pliers giving it two or more coils or turns as you desire a weak or strong spring. A spring can be worn a week without change of tension and one spring answers for many cases. In the case

before you, I have made two small plates of rubber along each side of the jaw, and then, after a little study as to the best place, I bore holes in the plates, to receive the prong ends of the wire spring. Always drill the holes in such a position that the plates will not fly away from the teeth. In making the plates cut the plaster cast so that the prongs of the plates pass between the teeth and help hold the plates in position. Another way is to make a band of thin platinum around the teeth, bore holes to receive the springs and spring into place. If the holes are deep enough the force of the spring will hold the plates in place. To move teeth on only one side, make a plate large enough to take in one side and then make a smaller plate for the side to be moved. The cause of the increasing number of cases of irregularity is the premature extraction of the temporary teeth. A case where the temporary teeth were extracted on one side of the jaw caused a marked deformity. There is no deformity on the other side where the teeth were allowed to remain until ready to be shed. I believe it to be necessary to preserve and retain the temporary teeth. Have noticed where the temporary molars have been extracted too early the permanent molar pushed forward and did not leave room for the eruption of the cuspid, the follicle of the cuspid being further up.

Drs. Talbot and Keely demonstrated the correction of irregularities in the mouths of patients of Dr. Harroun, besides explaining the various methods by means of molds and plates. A special vote of thanks was given these gentlemen.

A SPECIAL CASE.

BY DR. J. H. MORRISON, CONNERSVILLE, IND.

A PUBLIC speaker had lost the four superior incisors, and left bicuspid and molars. A number of rubber plates had been worn which had badly abraded the cervical portion of the left cuspid, considerable absorption having also taken place, it was necessary to fill out the arch and protect the tooth from further abrasion. On the right side the upper teeth were all in place and the lower ones all gone.

A denture was desired that would be reliable in public speak-

ing, preserving the natural articulation and sufficiently strong to bear the entire force of mastication, without much strain upon the left cuspid, which was already weak from absorption of the process.



With corundum wheels the shoulder, made by wear of cervical portion, on the left cuspid, was cut away, and the crown of the two cuspids brought as near parallel as practicable, open faced caps were made for them and on the distal surface of the cap for the left tooth a rectangular block or lug was soldered (*a*) and its ends slightly rounded. For the caps, closely fitting collars were made. The one for the left being slit and a projecting camber (*b*) formed, to pass over and enclose the lug. The caps were cemented on the teeth and the collars soldered in proper position to a very narrow skeleton plate, covering only the alveolar border. Gum teeth were waxed on the front of the plate and plain teeth on the side, using a facing tooth instead of the first bicuspid. A catch spring (*c*) corresponding in width to the lug, is then inserted in the chamber of the collar, passing its straight end up through an opening in the top of the chamber and bending it over by the pins of the first bicuspid, packed and vulcanized the rubber secures the spring in place. Under a firm pressure when the piece is inserted in the mouth, the spring passes over and above the lug, securing the piece from any tendency to dislodge, while it is readily removed for cleansing.

The cast having been trimmed so the plate would not bear on the tissues immediately around the left cuspid, the force of mastication is borne by the alveolar border and the continued usefulness of the tooth made as secure as possible.

Should it ever be necessary, the rubber may be cut away from the end of the spring with an engine bur, and the spring replaced with a new one.

DR. A. W. HARLAN, of Chicago, uses the oleo-resin (alpha-resin ?) of kava-kava for sensitiveness of the necks of teeth. It is applied about once a week, two or three applications being sufficient, usually.

MY METHOD OF BRIDGE-WORK.

BY H. W. RUNYAN, D.D.S., EATON, OHIO.

THERE is no doubt that bridge-work is very valuable in many instances, for partial dentures. But the great cost of the gold process places it within reach of comparatively few, while there are fewer practitioners of dentistry that thoroughly understand the swaging and soldering of gold that is necessary in the construction of the gold bridge-work. The method here described will place it within the reach of all who can afford a plate of any kind, and it can be constructed by any one capable of making a vulcanite plate, and I think it will last as long as any bridge-work, or as long as the roots, to which it is attached, will last.

PROCESS OF CONSTRUCTION: for a case where the four incisors are missing and the cuspid roots remain:—

After cutting the cuspids down to, or a little above, the margin of the gum, prepare by drilling out the canal with an inverted cone bur, and then a pointed fissure bur. By so doing a perfect funnel shaped canal is formed, which gives strength to the work, and facilitates access to the end of the root. Take a platinum bar long enough to reach from one root to the other, and bend at right angles to form the pins. Now set the bridge support in place, after bending to conform with the gums; and take the impression and articulation. Make the model, place on the articulator and wax on vulcanite teeth. Remove from the articulator, flask and vulcanize, after covering all the rubber with vulcanizable gold.

Gum teeth can be used for the bridge between the roots, if the alveolar process has been absorbed very much.

After vulcanizing, clean up and fasten in by placing a little cement on the pin that extends into the cavity formed by the fissure drill. The rubber will fill that part formed by the inverted cone.

Use the best rubber, run the vulcanizer up slowly to 300° Fah. and vulcanize for one hour and fifteen minutes. You will have “a thing of beauty, and a joy” to your patient and yourself.

DENTAL HEMORRHAGE AND ITS TREATMENT.

BY OTTO ARNOLD, D.D.S., COLUMBUS, O.

IN a recent number of the *Cincinnati Commercial Gazette*—Sunday issue—there appears among the Covington news items, an account of a young man who had several teeth extracted at the dental college in Cincinnati; and as a result of the operation had dental hemorrhage to the extent, it is alleged, that a fatal termination was averted only by the calling in of a physician who said, “A butcher could have made a better job, and if not called in as soon as he was, the man would have bled to death in a few hours.”

I do not wish to offer any special defence for the college, as the custodians of that institution are capable of defending it themselves. But the above comment is suggestive, and whether the assault is called for or not, affords food for reflection, and stimulates me to contribute a few practicable hints concerning dental hemorrhage.

Dental hemorrhage, and a knowledge of its cause, and the means for successfully arresting the same, are not it appears, as well understood among medical men generally, as the importance of the subject demands; hence, we frequently hear, and occasionally see published, such sentiments as the above, intimating, if not purporting, that the cause must necessarily and altogether be due to butchery and lack of skill, and can never be due to the operation itself, if well and skillfully performed.

I'll admit that the unnecessary laceration of adjacent parts due to lack of skill or carelessness in extracting teeth, or in the performance of any other operation of a surgical nature, involving more tissue than the nature of the case demands, thereby enhancing capillary hemorrhage at least, and upon the whole—complicating the lesion—such practice is unscientific and deserves to be earnestly and vigorously condemned.

Persistent hemorrhage following tooth extraction, is nearly always due to the hemorrhagic diathesis; and when this condition is present, we may expect continued hemorrhage, more or less, in every case. No matter how carefully and skillfully the operation

is performed, bleeding, to a greater or lesser extent, will follow, and if the operation has been a bungling one, with extensive laceration of tissue, the inducements are most excellent for developing one of those extreme cases we occasionally hear about.

In the June issue of this JOURNAL, is recorded a fatal case of hemorrhage following tooth extraction, occurring in St. George's Hospital, London. We have every reason to believe that the details of the various operations—and they were numerous—from the extracting of the tooth to the final plugging of the canal containing the inferior dental artery, were skillfully performed, and yet hemorrhage recurred and the patient expired.

The surgical or mechanical management of a bleeding tooth socket, on account of its environments, is necessarily difficult, and the means that could successfully be resorted to for wounds in other localities, would be altogether impracticable here. Therefore, we must direct more attention and study to correcting the diathesis systemically, and abandon all heroic local applications, whether surgical or chemical.

I have had the most gratifying and perfect success in many cases of excessive alveolar hemorrhage, by relying entirely upon astringents given internally, such as opium and lead, and tannin. But beyond everything else, gallic acid has afforded the most prompt and satisfactory results. Referring to the U. S. Dispensatory, I find this :

“In all hemorrhage in which the bleeding vessels are to be reached through the circulation, gallic acid is the most efficient, as its chemical affinities do not afford the impediments to its absorption as those of tannin, etc.” My favorite prescription is :

R	Gallic Acid	ʒ i
	Aqua Cinnamon	ʒ ii

Sig. Tablespoonful every hour until bleeding is arrested.

Two or three doses usually suffice to produce a clot and all trouble is then over.

In connection with the above, the tooth socket should be gently but securely packed with tannin. For this purpose I use a saturated solution of tannin in water, saturating a pledget of cotton in the solution, and packing it firmly into the socket.

Persulphate of iron, either in solution or salt, should positively be discarded from the list of styptics, as unreliable, on account of the frail clot it produces and the tendency to secondary hemorrhage following its use.

I am satisfied that the milder course is the better in these emergencies. Powerful styptics, heroic plugging with wood or similar materials, the actual cautery, and surgical operations, are not now in place, and must be abandoned for the more scientific, pleasant and reliable one of systemic medication. In many cases careful observation might disclose complications, as constipation, congestion or some specific cachexia, requiring a judicious systemic regimen, etc. Such I would transfer to the medical fraternity, as we can't conveniently extend our professional services beyond our offices, besides, they, the m. f. already claim that we are already trespassing upon their domain.

Correspondence.

"I charge you that this epistle be read."

LABORATORY INQUIRIES ANSWERED.

BY DR. L. P. HASKELL, CHICAGO.

A LETTER received from an Ohio dentist asking the following questions, and as I am constantly receiving letters of similar character, I have concluded that an answer through the JOURNAL might be helpful to others.

1. *Will common Babbitt metal make good dies?* No, because it is too soft; lead being used instead of tin in order to cheapen its cost. The proper formula for dental dies is 1 part copper, 2 parts antimony, 8 parts tin, to be melted in the order named, otherwise the tin would oxidize badly. Melt in a crucible, and, as a high heat is needed, take it to a foundry or to a blacksmith's forge. This metal has *all* the requisites of a dental die.

2. *What do you use for counter-dies and how obtain them from the Babbitt metal dies?* Use lead with tin added to reduce its melting temperature as pure lead would adhere to the Babbitt die. Take 5 pounds of lead, 1 pound of tin, coat the die with whiting; insert partly in the sand, place a ring around it and pour not too hot. It is never necessary to use the ring in swaging.

3. *Do you put paper between the joints before soldering?* No need of it. The backings should not meet except at the base.

4. *What is your investment for soldering?* Plaster and sand equal parts; enclose in a sheet-iron ring an inch wide and a little larger than the case.

5. *What kind of soldering appliances do you use?* A convenient appliance for holding the case is made of sheet iron, $3\frac{1}{2}$ inches in diameter, semicircular in form, *open* on the straight side, with a rim 1 inch deep, and a 10 inch handle riveted to the bottom, at the corner, diagonal to the cup. Heat the case as hot as possible over the gas.

For heat, if gas is used, form a bulb 1 inch thick, by winding fine wire over the end of the gas pipe, using no *fixture* upon the pipe, or use three or four thicknesses of fine wire gauze. Either will give a flame like a lamp, requiring no force to control it. Use a blow-pipe with large orifice for the mouth, to be *pressed against* the lips, and with a good sized opening for the blast, so the whole flame can be utilized. Such a blow-pipe is now made by the S. S. White Co., at my suggestion.

I prefer 20 carats plate, and solder of the same fineness, and never less than 18 carats. The nearer the solder to the melting point of the plate, the better it works, not rolling up but blending right with the plate. Plate should be made of pure gold with an alloy of pure copper and silver. It is not necessary for the dentist to make his solder while the White and Justi establishments furnish so fine an article.

“HAMAMELIS VIRGINICA.”

IN the OHIO JOURNAL OF DENTAL SCIENCE for October and November, 1886, we see extracts from other journals, etc., that decry the virtues of Hamamelis as a remedy. Without going into particulars in reference to these “wishy-washy” remarks, we will state that the remedy in question has borne the test of time in a most remarkable manner. By reference to dispensatories of over fifty years ago, we find that it was known to have been used by the Indians as an application to painful tumors and other cases of external inflammation, and it was also recommended by such dispensatories as a wash in hemorrhoidal affections and ophthalmia, also to be given internally for bowel complaints and hemorrhages.

The range of Hamamelis as a curative agent is here clearly indicated and which has been clearly borne out in its use by the profession for more than a score and a half of years. There is no phase of hemorrhage, scarcely, but that it is applicable, especially in those from the uterus, the lungs, the stomach and the bowels.

The vast amount that is manufactured, sold and used of this drug is truly wonderful. It is said that one firm alone has put millions of bottles upon the market, and yet the profession and the public cry for more. To say that iron, tannic acid, or gallic acid, will do what Hamamelis will do, are not borne out by experience. Hundreds and thousands of remedies have arisen and had their brief day of notoriety and decline since Hamamelis began its course and it is still holding on its way.

The *Medical Record* may say that St. John's wort thirty years ago and arnica later, were used and lauded by American housewives, as good applications to aching limbs, and still more recently the extract of witch-hazel has superseded these and can see no reason for its having any virtues over alcohol and a dozen other things. Reference is made to the tannic or gallic acid which the Hamamelis contains, as to be credited for its good effects. This is perfectly silly; for on this principle of judging or reasoning the merits of the great member of standard remedies, so to speak, could be explained away.

J. Marshall and H. Wood may say that after numerous experiments, they find Hamamelis has no effect upon the vascular system of our bodies and also talk about faith, etc., yet I believe I could find thousands of physicians who would give testimony in an opposite direction, and those physicians, such as Drs. Wood and Marshall, and as well Dr. Guy of Paris, would acknowledge to be of good repute. *Facilis est descensus* * * *.

CHICAGO.

D. A. COLTON, M. D.

OPERATING IN A SOUTH LIGHT.

EDITOR JOURNAL:—Will you please answer through the JOURNAL or have answered, How, to best regulate a south light for the dental operating room?

MT. CARROLL, ILL.

JAMES W. CORMANY.

[We have operated in a south light for ten years, and prefer

it to a north light, using two spring-roller shades; a drab or brown one, starting from the sill of the window, to pull up by means of a cord and eccentric pulley above. The other, of white goods, to pull down from the casing above, thus tempering the sunlight and using the lower one as a rest for the eyes, drawing it as high as necessary according to the intensity of the light. May be some of our readers have a better plan, if so we hope to hear from them.—ED.]

Editor's Specials.

"Write the Vision and make it plain."

DELAYED.

IN order to present the report of the meeting of the Ohio State Dental Society while still fresh, we are compelled to carry over several valuable contributions and favors from our correspondents, including Dr. Keely's illustrated article. They will appear in the February number.

MISSISSIPPI VALLEY ASSOCIATION.

DON'T forget the coming meeting of the good, old active, energetic, wide-awake mother of societies, the Mississippi Valley Association of Dental Surgeons. We told you about a gold medal to be awarded for the best essay, besides a great many other things,—we told you in the JOURNAL, in an Editor's Special, just after the close of the annual meeting last year.

Those actively responsible are anxious to have the coming meeting surpass all its predecessors, and they are working like Nehemiah's returned Israelites when rebuilding the walls of Jerusalem. Each worked at his respective place, and "the people had a mind for the work." No wonder they waked up the natives by their quick success. Now each one of you do likewise. You who are to prepare papers, do so promptly, and right now send the title of your paper to Dr. N. S. Hoff, 264 Race street, Cincinnati, Ohio, who is chairman of the Executive Committee. The committee is anxious to issue, in good time, a program, giving a

list of the papers to be read and discussed, along with the other matters to be set forth therein. You can do this at once; for even if you have not begun, or have not even settled on a subject, select your subject at once, notify him, and then write it up. It is important to have this program in the February issue of the JOURNAL, and the *Register* at least, to say nothing of the other periodicals. This is another reason why you must be prompt. You can do the work now quite as well as in week after next. *Do it. Do it.*

And as soon as you get the program, read up carefully and thoroughly on the subjects presented, and then you'll not have to sit and suck your thumbs while the others discuss professional science.

The President writes me that he has papers promised from Cleveland, Toledo, Chicago and Cincinnati, already, but those are not enough. He wants one from your place, we forget the name of it just now, but you know where you live, and that is the very place from which a good paper is wanted. We'll all hold you responsible for its production and presentation. Be there with your paper, and with a professional brother who ought to be, and is willing to become a member.

AS OTHERS SEE US.

WE take the following from an editorial in *The Dental Review*:

“OHIO STATE DENTAL SOCIETY.

“One very noticeable feature of the methods of this society is, that the board of directors do all the business, so that no time is wasted in aimless discussion. We hope to see other societies follow this good example. In some other respects, however, the society is behind the times; notably, in the preparation of a programme of scientific work. We believe in the system of having a subject and a particular essayist to read a paper on that subject; after the reading of such a paper or essay, an intelligent discussion is pretty certain to follow. According to the method now pursued by this society, some one is called upon to open the discussion on a subject, and if he fails to open it properly or succinctly, a very rambling discussion takes place, which may or may not be valuable. In spite of this defect in the government of the

society, the meeting was a success, as many new members were enrolled, and at times the debates were spirited and of considerable value."

We are glad to see this kindly criticism of the methods of a dental society and hope our journals will keep it up, pointing out the good, as well as the bad points, thus leading to the discussion and, we hope, the improvement of association proceedings. Other reforms are called for, some of which were pointed out in the book reviews of our December issue.

OBITUARY.

EDMUND OSMOND, M.D., D.D.S., CINCINNATI.

DR. OSMOND was born in Hereford, England, October 8, 1828. He received a medical education in his native land and came to this country in 1850, practicing medicine in or near Sidney, Ohio, for five years. He then spent several years in England and on returning to the United States attended lectures at the Ohio College of Dental Surgery, graduating in 1856, and from that time practiced dentistry in Cincinnati, until a few months prior to his decease. In 1867 he was married to Miss Edwin, of England who, with three daughters, survives him.

Dr. Osmond was an ingenious, energetic and industrious man; a good operator, keeping well posted in the advance of medical as well as dental science. He invented the improvement in the hand-piece of the dental engine by which the bur could be removed or replaced without stopping the engine, also instruments for inserting gold screws to retain fillings in large cavities. He was expert in the use of electricity for dental purposes, many of his devices being original.

Below we give the action of the profession in Cincinnati, at a meeting held in the office of Dr. A. Berry, who presided. Dr. H. L. Moore acted as Secretary. Besides these there were present Drs. J. Taft, H. A. Smith, C. M. Wright, Frank A. Hunter, O. N. Heise, E. G. Betty, Chas. Junkermann, R. A. Porre, H. A. Downing, R. E. Taylor, Frank W. Sage, M. H. Fletcher and Will. Taft. The following, setting forth the feeling in regard to the death of Dr. Osmond, was adopted:

."Whereas, We have received the sad intelligence of the

death of Dr. E. Osmond, who has long been identified with the interests of the dental profession in this city ; and,

"Whereas, We, as members of the dental profession, have assembled, deeming it most fitting and proper to give an expression of the esteem and regard in which the deceased was held, adopt the following :

"*Resolved*, That we most fully realize in the death of Dr. Osmond the profession has lost a faithful member, one who was justly entitled to the respect and regard of all who knew him. He always evinced a great interest in all that pertained to his chosen profession, as a result of which, in several particulars, much was by his skill and genius added to its resources. Its progress was ever a matter of solicitation to him. For his friends he had an unusually strong attachment, and in every way he was a person of strong and decided views.

"*Resolved*, That we tender to the family our most sincere and heartfelt sympathy in this their great bereavement and sorrow.

"*Resolved*, That a copy of these resolutions be sent in proper form to the family, and a copy furnished the press for publication."

Similar action was taken by the Cincinnati Academy of Medicine, of which Dr. Osmond was a member.

JOEL P. ULREY, D.D.S., RISING SUN, INDIANA.

Dr. Ulrey died at his home, Nov. 9, 1886, in the seventy-fourth year of his age. He suffered for nearly a year previous to his death, but not until eight months before did the disease, consumption, compel him to take to his bed. He was a native of Lebanon, Warren county, Ohio. His father and grandparents came to the Northwest Territory from Pennsylvania in 1800, stopping for a while in Kentucky, and afterwards purchasing a farm in what is now the heart of Cincinnati. Dr. Ulrey studied dentistry in Cincinnati with a Dr. Boyd, before the days of dental colleges. He rendered valuable aid in the establishment of the Ohio College of Dental Surgery and was awarded an honorary degree by that institution. He practiced dentistry for about fifty years, establishing three offices at Rising, Sun, Aurora and Lawrenceburg respectively, spending two days of every week at each office. In the forty years that he lived at Rising Sun, it is

said that he missed his visits to the other offices only five times on account of ill health.

He married a lady of French descent, Miss Sarah Igoe, who survives him. They had no children. He was a good citizen, always willing to help on every worthy enterprise. He was kind and generous, too much so for his own worldly advantage. Altogether he had fewer faults than most men. A zealous and consistent member, for forty-three years, of the Methodist Church, he died in that faith. He was also a member of the I. O. O. F.

Societies.

"Wherewith one may edify another."

MEETINGS.

Louisiana State Dental Association, New Orleans, February 23, 1887.

Ohio Dental College Association, Cincinnati, Tuesday, March 1, 1887.

Mississippi Valley Association of Dental Surgeons, Cincinnati, Wednesday, March 2, 1887.

Michigan State Dental Association, Ann Arbor, Tuesday, March 29, 1887.

Northern Ohio Dental Association, Cleveland, Tuesday, May 10, 1887.

Mad River Valley Dental Society, Dayton, Ohio, Tuesday, May 17, 1887.

Illinois State Dental Society, Jacksonville, Tuesday, May 10, 1887.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Pennsylvania State Dental Association, Cresson Springs, Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September, 1887.

AN INTERNATIONAL DENTAL CONGRESS.

ACTION BY THE CHICAGO DENTAL SOCIETY.

[Reported by A. E. BALDWIN, M.D., D.D.S., Chicago.]

AT the close of the meeting of the Chicago Dental Society Dec. 7th, 1886, and after a motion had been made to adjourn, and many members had left, Dr. T. W. Brophy offered a resolution endorsing the preamble and resolutions passed by the First District Dental Society, of the State of New York, in regard to the organization of an International Dental Congress, to be held in this country, and asked that a committee of three be appointed to confer with the committee of the First District Society.

The following is a report of the discussion upon the resolutions:

DR. W. W. ALLPORT: To the holding of an International Dental Congress, at a suitable time and place, and under favorable circumstances, no valid objection can be raised. While, therefore, I can approve of, and will vote to endorse, so much of the resolutions as call for the organization of the proposed Congress, I can not endorse some portions of the preamble, nor certain conclusions stated in the resolutions just read, for they seem to me to be rather presumptuous.

The third clause of the preamble reads (reading from the *Independent Practitioner*), "Whereas, Dentists throughout the world look to their professional confreres in America for the further advancement of dental science; therefore," says a portion of the first resolution, "that immediate steps be taken looking to the formation of an International Dental Congress, to be held in this country at as early a date as arrangements can be made which will make such a congress a credit to the dental profession in America." Without venturing to justify the modesty of the claim in the preamble, or even to criticise it, I will suggest that as the diplomas of few of our dental colleges are recognized in most of the leading European countries as an evidence of qualification to practice in those countries, this claim is hardly borne out by the facts in the case. While the dentists of this country may excel in handi-

craft, manipulative skill, our "science" hardly outranks that of the educated dentists of England or some of the other European countries. I would much prefer, therefore, and it would, in my judgment, have been better had the clause to which I have made reference, been left out entirely.

While I can see no objection to an International Dental Congress, I can see no need for great haste in the matter, nor can I see that any claim set forth in the preamble is sufficiently true to justify the First District Dental Society of New York, or the practitioners of this country, in demanding that the Congress shall be held in America, whether or no, if held at all. There need be no great hurry in this project. To push the matter with undue haste, would imply, or seem to imply, that the leading spirit in the undertaking had some ulterior or selfish motive at heart, which prompted this hasty action, as there is now but a few months before the meeting of the International Medical Congress, and the work of the Section of Dental and Oral Surgery in it.

If it is desirable to organize an International Dental Congress, it seems to me, it would be better to wait until the meetings of the American Dental Association and of the International Medical Congress in this country next summer to perfect the plan. Then when representative dentists are assembled, from all the countries in the world, have a conference together and determine what shall be done, when it shall be held, and if held, whether it shall be in this country or some other; rather than to start out with the claim that the dental world is looking to this country for the future advancement of dental science, and that, therefore, the Congress must be held in this country if held at all.

This, or something like it, it seems to me would not only be the right, but the judicious thing to do, if we would make such a Congress the success it should be. To hold a Congress too soon, if it did not, to some extent injure the section, it would certainly militate very greatly against its own success.

DR. T. W. BROPHY: I protest against such remarks as we have just listened to. They are an insult to the profession. It is acknowledged the world over, that American dentistry is the best in the world, and the American dentists stand at the head of the profession, and to say that it is presumptuous to claim what every one knows to be true, is an insult to American dentists,

who have done so much to elevate the profession. We do stand at the head of the profession, and I object to having it said that such men as Drs. Dwinelle, Perry, Northrup and others are selfish and have ulterior ends to accomplish in having this Congress. That committee is composed of the best men in New York, known and respected by everybody in the profession, and I object to its being said that they are selfish in what they have done. The statement that the diplomas of the dental colleges of this country are not received in Europe does not amount to anything for their diplomas are not received here. It is a mere matter of retaliation.

DR. ALLPORT: I am always glad to hear the good name of American dentistry defended, but to claim that the entire dental world is looking to us for the future advancement of dental "science" is a little presumptuous, and in bad taste, even though it might be true. The fact that the diplomas of some of our dental colleges are received in Europe while those of others are not, is sufficient evidence that refusal is not retaliatory.

While I shall vote for the Congress, I would like to eliminate the clauses I have referred to, for, as I have already said, the recognized dentists of many of the countries of Europe are fully as "scientific" as are the dentists of this country.

In my remarks when upon my feet before, I said nothing about Drs. Dwinelle or Perry, or anybody else, as one would infer from what Dr. Brophy has just said. I said the leading spirit, or spirits, if you please, and I happen to know that the gentlemen named are not the leading spirits in this movement, and I also know who they are, therefore I do not wonder that the gentleman is a little sensitive upon that point.

The leading spirits are some of those who schemed to get control of the Dental Section in the International Medical Congress, but failed to do so. They were months laying their plans, and they did their best to get certain gentlemen appointed to office, and even after the appointment of the leading officers had been made, they tried in a questionable way to get them changed. Failing in their efforts they came to the conclusion that we did not want a Dental Section. The seemingly spontaneous action of the meeting referred to in New York, is but the result of months of hard labor upon the part of some of these same gentlemen.

In regard to the gentlemen placed upon the committee, I will say that I know every one of them, and some I believe to be

conservative, judicious and level-headed men. And I believe Pres. Carr, in his wisdom placed them upon the committee to keep it straight.

Hoping that wise counsel will prevail, and that matters may be so arranged that harmonious action will be secured so that if the Congress is held, no matter whether in America or Europe, it may be a grand success, I will vote for the resolution.

DR. A. W. HARLAN: I would suggest that the committee be increased to ten.

DR. ALLPORT: Yes, make it ten.

This being agreed to, it was passed unanimously, between twenty and twenty-five members being present.

LOUISIANA STATE DENTAL ASSOCIATION.

THE annual meeting will be held in Tulane Hall, at New Orleans, La., on the 23rd, 24th and 25th of February, 1887. A cordial invitation is extended to the members of the profession throughout the States to attend. No efforts will be spared to make our guests welcome and comfortable, and the meeting interesting and profitable. An opportunity to witness the *Mardi Gras* festivities will be afforded those who come, also favorable railroad rates may be had at that time. *Mardi Gras* takes place the day before the meeting. For further information address,

P. J. FRIEDRICHS, *Ch. Ex. Com.*

155 Carondelet Street,

New Orleans, La.

NEW DENTAL SOCIETY.

THE Southern Illinois Dental Society was organized in East St. Louis, November 23d, 1886. A good attendance was one of the pleasing features of the meeting, intense interest was another. The officers for the ensuing year are as follows: President, Dr. C. B. Rohland, Alton; Vice-President, Dr. T. W. Prichett, Whitehall; Secretary, Dr. G. W. Entsminger, Carbondale; Treasurer, Dr. N. W. Carter. The executive committee is composed of Drs. Jennelle, Dixon and Spencer. The society will hold its first regular meeting at Duquoin, commencing on the first Tuesday in April, 1887. G. W. ENTSMINGER, *Sec'y.*

Carbondale, Ill.

Our Aftermath.

BRITISH COLUMBIA now has a dental law.

The Dental Practitioner, Philadelphia, has been discontinued after a career of four years.

LOUISVILLE, KENTUCKY, has a School of Dentistry, which begins its first term this month.

THE Dental Section of the International Medical Congress will soon issue preliminary announcements.

DR. M. STOUT, formerly of Cincinnati, is one of the faculty of the Northwestern College of Dental Surgery, Chicago.

DIGNITY IN TITLE.—A lady in advising a friend to seek medical advice said: "Be sure to see a doctor, not a 'doc.'"

A SWISS Dental Association or more correctly "Verein Schweizerischen Zahnaerzte," was formed last year at Zurich.

"AUSTRIA and Hungary are the only countries where there are no dentists, none but medical men being allowed to practice dentistry."—*British Journal of Dental Science*.

WORTH REMEMBERING.—"By means of patience, common sense and time, impossibilities become possible," was the motto of Lord Clive's life, always inscribed on the fly-leaf of his pocket memorandum book.

A DENTAL Circulating Library is suggested in the *British Journal of Dental Science* by Dr. A. F. Hare, to encourage in the profession a more accurate and extensive knowledge of general dental history, literature, etc.

DEFECTS OF THE OSSEOUS SYSTEM AND DIET.—If we remember aright, it was in these very Gardens of Dublin that the young lion cubs were once found to be born with certain remarkable bony defects, of which cleft palate is an example. This defect was remedied by the careful supervision of the parental dietary. Apparently the secret of the successful breeding of the lion is due to the observance of the ordinary rules which regulate the growth of healthy bodies in humanity itself.—*London Daily News*.

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

FEBRUARY 1, 1887.

No. 2.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

CASES IN PRACTICE.

BY GEORGE W. KEELY, D.D.S., OXFORD, OHIO.

THE injurious consequences of the premature extraction of the temporary cuspids has been referred to most notably by Dr. Norman W. Kingsley in his work on "Oral Deformities." It is to be greatly regretted that so few in our profession seem to give this matter a thought, or have ever observed the result.

One who takes a lively interest in the prevention of irregularities, can do much good in his daily practice, particularly with his little patients. A permanent erupting tooth may be given a wrong direction by the remaining roots, or root, of its predecessor, and their timely removal will leave the coast clear and nature will direct it to its normal position. It is simply wonderful what the provisions of nature will accomplish if only intelligently assisted at the proper time. The temporary cuspids, if possible, should be retained until their mission is accomplished. When they are removed *prior* to the eruption of the first bicuspid, it will surely come forward and appropriate a part, or all, of the

space due the permanent cuspid; but if the first bicuspid are fully erupted and in contact, the danger is lessened. The following cuts, Nos. 1 and 2, is the case of a girl aged fifteen years, and shows the condition of her teeth when she came to me some twelve years ago. Both her father and mother had well developed dental arches.

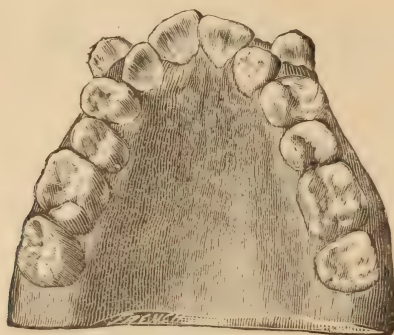


FIG. 1.

It can be seen, in Fig. 1, that the fourteen permanent teeth are fully erupted and the six anterior gone astray—the cuspids being wholly outside the arch and the laterals and first bicuspid in contact—the left lateral was locked inside the inferior teeth half the length of its crown. Her teeth were well developed and entirely free from decay. The temporary incisors were not removed until after some of the permanent ones made their appearance, and soon after her dentist, becoming alarmed at their crowded condition, imagined he was doing the right thing, and removed the cuspids long before the first bicuspid were ready to seek the light of day, thus causing the irregularity he sought to prevent.

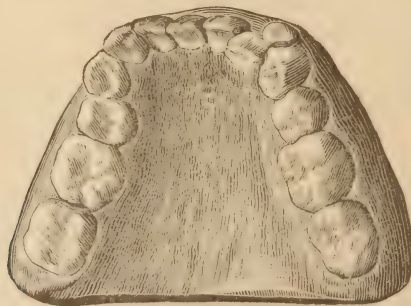


FIG. 2.

In Fig. 2 is shown the condition of the inferior teeth. On the right side the temporary cuspid was removed at the same time the superior ones were, and as the teeth were shown me, with others that came out by due process of nature, I feel quite sure my statement of the case is correct. It can be seen in Fig. 2 that the *right cuspid* is wholly outside the arch, caused by the premature removal of its predecessor.

As we were given but a short time to regulate the case, we extracted the superior first bicuspid, *expanded* the second bicuspid, and at the same time started the cuspids back, working most vigorously on the left one to get room to take the lateral out of its lock; when this was accomplished, a retaining plate was inserted to hold the bicuspid and lateral in their new positions, leaving the process of nature to carry the cuspids to the position left vacant by the removal of the first bicuspid. In the inferior jaw we extracted the right lateral, and with a rubber ligature, started the cuspid to its place. The girl was unusually well developed for one of her age, and as she had a short upper lip, the deformity was very marked and extremely mortifying to a pretty young girl just bursting into womanhood. My instructions were to frequently press the cuspids back with the thumb and finger, as this would hurry them into place. This advice was not forgotten, for when I next met her, the first and only time two years after, her refractory teeth were in line, and she was transformed into a beautiful woman. And for the first time I was awarded an expression of appreciation for the result; her parents never thanked me or referred to the case.



FIG. 3.

In Fig. 3 can be seen sixteen permanent teeth; the subject a girl aged 21. The left second bicuspid is wholly inside the arch, caused by the removal of the temporary molar before the eruption of the permanent first molar, causing it to come forward and take up all the space due the second bicuspid; and the anterior teeth on this side are out of line more than one-sixteenth of an inch, a better showing than is common under such circumstances. So far as we are aware but little or nothing has been written in regard to the importance of preserving the temporary molars until after the permanent first molars are fully erupted and in contact, for the *purpose of preventing a crowded condition of the anterior teeth*.

It is quite too common in this age, when it is rather the exception not to find the temporary molars decayed and giving trouble at the age of four or five years; the little one is taken to the family dentist to seek relief, and the offending molar is extracted, and no thought given to the evil result *sure to follow*. Our observations in this line extend over almost an ordinary life time, and we have spent much valuable time in treating these molars for our little patients and giving them relief, and if we succeed in preserving only the roots in place, the permanent molar will erupt wholly or nearly in its normal position.

To the "doubting Thomas's," we say, try this experiment—such it will be to you. After or before extracting one or more of these teeth (before the eruption of the permanent first molar) take an impression, and you have but a few years to wait, when you will, if you have a conscience, observe the *evil result* with amazement and mortification, and that *you* were the *innocent* cause of the trouble your eyes rest upon. I will feel that I have accomplished some good if but one of the many who may read this article will refrain from using the forceps on these molars, but relieve the pain and send the little one home rejoicing.

MERCHANT KELLY.

A BIOGRAPHICAL SKETCH.

THE history of the dental profession would ever remain incomplete without a sketch of the life and professional (?) character of the person or individual uniquely named as above. Fear-

ing that those who could best do it will not undertake the task, the writer sees fit to make this effort, hoping that the readers will forgive its defects, and that it will afford them a few minutes of amusement, if not instruction.

Not very long ago the barber, the blacksmith and the butcher were the general surgeons of the day; and within the memory of some yet alive, almost every neighborhood had its natural bone-setter, and its phlebotomist,—the “bleedin’ man,” as the children called him with bated breath, on seeing him approaching. General surgery rose above the sphere of these characters, and they were driven to specialties, many of them extracting teeth, and claiming to know more about the business than did the physicians, in which estimate they were not seriously mistaken; for it certainly would have been difficult to go farther astray than did the physician with his barbarous turnkey, properly called a canthook. But the individual here considered differed from all these; and he is very properly designated as an *individual*, for individuality was the strong characteristic of his mind. He was much unlike all others.

In the summer of 1844 the writer of this located, as a physician at a small village in eastern Indiana, in a densely populated and wealthy community. Board and lodging were obtained on condition that a yankee school teacher, then absent be allowed to occupy the same room. At the end of two weeks the “yankee” arrived. Having regarded yankees as the product of only the New England states, I was surprised to find that this one hailed from central New York. He had been several years in Indiana, however, and was very familiar with its geography and institutions.

Our yankee proved to be a small man, about five and a half feet in height, weighing one hundred and ten pounds, face wrinkled, sunburned, without the slightest color of blood about it. It looked almost as lifeless as a leather mask. He was dressed in homespun flax linen from top to toe, nothing imported but his “chip” hat. Although it was yet summer his shoes were of thick cowskin leather, with very heavy soles. He had glued a layer of muslin inside the crown of his hat, and had given it a coating of coach varnish. The hat was the depository for all his valuable papers. In it were notes for money loaned to the amount of hundreds of dollars.

In his pockets were a variety of penknives, a pocket compass, a watch, with a short leather string to it to render it more easily caught, a bottle of liquid glue, a horseshoe magnet six inches in length, a pair of shears, pliers, a screw-driver, a folding tack-hammer, a box of buttons, labeled "A bachelor's batch of bachelor buttons," a pin cushion with an assortment of needles added, a ball of white, and another of black thread, a cobbler's awl and some wax ends, a scale and dividers, a pocket drinking cup, of his own device and make, with various other things too tedious to mention. His pockets had been made to order, and the two behind him were as extensive as the swallow tails of his heavy linen coat.

Mr. Kelly was a great walker. The roads ran on section lines, but he paid no attention to them, but with his pocket compass he took his bearings, and went across farms as he pleased. He was about to take a tramp of fifteen miles and back, and having a surplus horse, I proposed he should ride him. In beseeching tones he said if I wished he would lead the horse to his brother-in-law's and put him in pasture and bring him back as he returned, but he hoped I would not insist on his riding. I never saw him on horseback, nor heard of him riding a horse.

He was a most accurate surveyor, and was something of a mathematical genius. In going over the country he would mend broken glass and porcelain with his liquid glue, repair defective tinware, etc., not charging a cent for such services. After a time he secured a galvanic battery and went all over the country proposing to cure the people's many ills by electricity. This he adopted as a calling after having become tired of teaching.

The popular notion was that much of his eccentricity was assumed; and it was claimed that a disappointment in early life entirely and suddenly changed his external character. He was very well connected, and his near relatives were like other people, the well known and famous showman, Hyatt Frost, being his nephew. His fondness for children was remarkable. He was seldom too busy to repair a boy's kite or a girl's doll.

A horse fell and threw a young physician over his head, and when reaction was established, there was a rather threatening flow of blood to his head. He asked Kelly to bleed him and showed him how to do it. The patient soon felt better, and the operator asked what blood tastes like. At once he passed into

the kitchen, and coming out with a teacup, he collected two or three ounces in it, and sipped it slowly, stating that the taste was exactly like that of milk. Next he wondered if it would be improved by sweetening, and he decided affirmatively after having tried the experiment.

Another anecdote will illustrate his enthusiasm about little things, and will enable the reader to better understand his methods in changing from a school-teacher to a dentist.

A friend, who had been a teacher, supposing his name to end with the syllable "ley" instead of "ly," wrote an acrostic and left it on his desk. It was as follows :

"Marry soon lest you should be
Entirely deserted ;
Remember Time's destroying stroke
Can not be well diverted.
Hunt up a real pretty girl,
And then resolve to love her ;
Nor slack till you the question pop,—
Then half the battle's over.
Keep in good heart, and keep despair
Entirely out of mind, sir ;
Love's so contagious that she'll soon
Lisp out the yes, you'll find, sir.
Except you then back out and run,
Your single life's as good as done."

All who saw the above, including its author, considered it as quite common place, except the acrosticated hero. He regarded it with admiration, had it put in type and printed on neat slips. These he distributed wherever he wandered.

This part of the sketch may seem tedious. Let it be remembered that there has been but one MERCHANT KELLY in our profession, (and certainly one was enough,) and his professional character cannot be well understood without this preliminary explanation.

About the year 1849, Dr. Eli Collins, afterward a professor in the Ohio College of Dental Surgery, located in Connersville, Indiana. He was taking the *Dental Register*, and perhaps some other professional periodicals. In the *Register* was a series of articles on filling teeth. These were probably from the pen of Dr. James Taylor. Kelly borrowed the numbers containing these articles, and in a very brief period he was tramping over the country filling teeth. For several years he didn't practice

mechanical dentistry. He was never content to do any work, or even play, like other people. He always had a better way, or thought he had, which contented him quite as well. His uniform expression to any who objected to his modes was, "Let me show you."

Accordingly he made with his own hands most of the instruments he used in filling teeth, and very unique specimens they were, certainly. He had a long strip of leather eight or ten inches wide, and on this he had small loops of still softer attached. These loops retained his instruments in place. When traveling the leather was rolled together so as to form a cylindrical body, containing the instruments. When operating he would hang the leather strip on a hook screwed into a door frame, cupboard, or wall. The screw he carried in his pocket so as to have it always ready. The instruments were all numbered, and corresponding figures were attached to the leather at the end of each, being fastened with his own liquid glue.

His instruments and other traps were carried in the most old fashioned saddle-bags. These he put on one shoulder, and passed one strap in front and the other in the rear of his neck, and fastened them with a clamp of his own device and make. Thus his hands were left free, and as he walked along the road he could read, or make bark whistles for the little boys at his next stopping place.

In the earlier part of his practice he filled teeth mostly with tin. During this period, he informed me, he discarded amalgams entirely, and I do not know if he ever used them. He had strong prejudice against mercurials in medicine, and blamed them for the greater portion of the aches and pains of the people at large. In filling with tin he made some innovations. He thought it a waste of labor to beat a metal into foil when its solid state answered better the desired purpose. So he made a draw-plate to exactly correspond with his bur drills. He would take a bar of block tin, the purest he could get, hammer it flat, pass it through his rollers, reducing it to the desired thickness. Then he would cut it lengthwise into strips, and pass these through the draw-plate. He would then, after preparing, say a crown cavity, cut off a block from his tin wire of the desired diameter, set it in the cavity, and with an instrument finished like a burnisher, and a small hammer, he would spread and shorten the block till

it fitted the cavity perfectly. Then, if necessary, he would dress off the grinding surface, and polish it. I have seen these block fillings bright, firm and serviceable, after twenty or more years of service. In carefully examining a number of them I was unable to find a leak or defect of any kind. In his hands they were as nearly perfect as tin fillings can be made. At first he used them only on the grinding surfaces of the teeth, but after learning to separate teeth, so as to gain the needed space, he often put them in the lateral surfaces. Of course they were not adapted to irregular, compound cavities.

He began, after while, to fill with gold foil; and after using one or two books, of an eighth each, he wrote to me to ascertain the price of gold foil by the pound, half pound and quarter pound. And this calls up an anecdote:

I went into the dental depot of Dr. J. M. Brown, and found the doctor and his assistants convulsed with laughter. For a time they were not able to explain, but Dr. B. was the first to get control of himself, when he began to lament that I had not come in a few minutes sooner. Oh, doctor! said he, you would have seen the curiosity of your life. A man, or *thing*, with a full suit of unbleached, home-made hemp linen, with a dilapidated chip hat, with a piece of bark tied around it, with an old pair of old fashioned travellers' saddle-bags on one shoulder, and tied around his neck, and the thing could talk; and what do you think it wanted? *A pound of gold foil.* A POUND, mind you! And again all laughed uproariously. I'd bet, said the doctor, he hadn't money to pay for two leaves of gold foil. When quiet was gained, I said quietly,—Better sell him the gold, and anything he asks for, if it is for sale. He'll pay his bills. Did you see him, then? Do you know him, said the doctor. I explained, and it was not long till the doctor was on the street searching for him. Fortunately he had inquired where he could get a *cheap* dinner, and one of the salesmen had sent him to a place near, and there he was found enjoying his favorite bread and milk.

Some considerable time after this he wrote me that Mr. Dunlevy of Pittsburgh, was certainly an honest man; and he would advise his friends to patronize him. As a proof of his honesty, he told me he had bought a pound of gold foil from him, and he borrowed a pair of correct weighing scales, took the leaves of foil out of the books, and carefully weighed the gold. It

lacked just twelve grains of being a pound. He wrote to Mr. D., stating the facts, and he said Mr. D. sent him two leaves of No. 6 foil, to correct the error, and two more to pay him for the trouble; and thanked him also, saying it was very important for him to know it if his scales were even but slightly incorrect.

His manipulations with gold were his own; but he had no plan with it so special as his use of solid tin blocks. I have seen very many of his gold fillings that were well finished, and were doing very good service. Any criticisms I would suggest as to his modes of filling would begin by objection to his very free use of the file. He believed in it; he wanted room; and he dotingly admired self cleansing surfaces.

It would be interesting to know how many miles he traveled, in his peregrinations. For many years he tramped—not in the present offensive sense—Fayette, Rush, a part of Wayne and Henry counties in Indiana, occasionally extending his walks westward to Indianapolis, and eastward to Oxford, Ohio, or its immediate vicinity.

Once I urged him to establish an office, but I could make no impression on him by any arguments I could offer. When I told him how many teeth he might fill in the time spent walking, he replied that he must have fresh air, and time to read. These were secured by his itinerant plan. Then he called attention to the fact that within sight of good dentists, people were letting their teeth go to destruction, by sheer neglect. Such persons were reached by his method, and thus he claimed that he was doing a great missionary work for humanity. And he claimed that in his walks where he knew the people, he selected those that needed his services rather than the ones able to pay for them.

He appeared but little older the last time I saw him than he did the first time. His wrinkled, bloodless face held its own well, apparently defying time.

I cannot recall the period at which he began to make and insert artificial dentures. Before taking up this department of practice he spent some time under instruction in the laboratories of different dentists. He did honest work, in this line, but it was evident that filling was his proper part of the practice.

I cannot recall the date of his death, nor do I know his age at the close of his life. Indeed, I never did know his age at any period of a very intimate acquaintance.

I have written this sketch partly by request; but after all it has proved a labor of love. I have referred to no documents, nor have I consulted any of his relatives, though well acquainted with quite a number of them. I felt that if I drew altogether from memory, I would likely rescue from oblivion those traits of his character which I had most liked, or from which I had gained the greatest amusement. As he did not join nor attend the dental society meetings, but few in the profession knew him. Our genial friend, Dr. G. W. Keely, could probably tell some interesting things about him. Dr. E. Collins knew something of his early professional labors, and Dr. Wilson, his nephew, knows much about him.

Though he travelled and practiced dentistry, he was, in no sense a huckster dentist. His motives for that style of practice were not like those of the "travelling jack," nor were the results of his operations similar. I never heard of his taking advantage of other practitioners, by unfair dealings. Some of them complained of his low prices; but he claimed that as he had not taken a regular course of professional instruction, he was not entitled to the fees received by such as had; but he was inconsistent here, at least, for all the time he was trying to elaborate better plans, and to do better work than others.

A fair portion of our profession have seen the man. None will see his like again. Nature cannot afford to produce two such men. Merchant Kelly—"Mert" as his comrades called him—was *himself*. He was not anything else. He couldn't be.

IMPRESSIONS.

BY L. P. HASKELL, D.D.S., CHICAGO, ILL.

AS THE success of an artificial denture depends upon a correct impression, as the foundation of the work, care should be taken to insure success.

As to materials, I differ with many instructors. While it is true that good impressions, in some cases, can be taken with wax, more still with the modelling compound, plaster yet remains the only material, reliable in all cases. In the use of the other materials, it is necessary to select cases suitable for each, but if one

relies upon plaster he is sure of correct results. It may be accepted as an axiom, that the more difficult the case, the greater the necessity for plaster to obtain an impression.

For a *full upper*: spread a large napkin over the dress; select a cup as near the size of the jaw as possible; in order to obtain a high impression over the cuspids (always a necessity), place a little wax over the outside of the cup, at those points; also over the posterior corners, if the process is prominent, and raise the palatal surface, at the rear edge, if the arch is deep.

Mix the plaster to the consistency of thick cream, and add a pinch of salt at the last moment, after the plaster is stirred, as you do not want to hasten the setting of the plaster until it is in the mouth. Stand at the right side of the chair and with the left arm around the head of the patient, distend the lips, press the rear of the cup fully into place, and so forcing the excess forward, press the cup fully up to its place, telling the patient to keep the tongue quiet, and not to be concerned about what may run over at the rear, at the same time pressing the lip so as to force the plaster well up under it. If nauseated, tell the patient to resist the tendency, as it will soon be over. When the plaster has set, which can be ascertained by breaking off a piece of the surplus in front, remove by raising the lip high and working the impression so as to let air in under it.

For a *full lower*: proceed as above, except stand in front of the patient, and as the cup is passed into place, draw the cheek away from the cup, so as to prevent a fold of membrane under it at the rear.

For a *partial lower*, with the anterior teeth remaining: select a cup with an opening for the teeth, and through which they will pass easily. Wet a piece of soft paper and lay over the opening, and holding the cup in the palm of the hand, fill in the plaster, and place in the mouth, always pressing the plaster away from the front to avoid, as much as possible, having it outside of the teeth, thus facilitating removal. If there are molars remaining, and the sides of the cup will not go deep enough, place wax upon the outer edges.

In many of these cases the teeth stand in such a position that the plaster must of course break up in removal, but it matters not, only save the pieces, put them together, and a perfect impression results.

For a *partial upper*: proceed as with a full upper, remembering to press away the plaster from the sides of the cup, when there are teeth, before inserting, as enough will go outside. In these cases *do not let the plaster set as hard* as in a full set, as the cup in such case, is apt to leave the impression, and it has to be removed piecemeal, which is very unpleasant to the patient.

Never take an impression in wax, and plaster in it, for while the plaster will break away as in the other case, it will be so thin in spots as to be difficult to save the pieces, and replace them. Then there is nothing whatever gained by it.

It is a plain, simple process, only avoid using a great deal more plaster than is needed, or as large a cup as in full sets.

THEORIES OF DENTAL DECAY.

BY THE EDITOR.

POSSIBLY it was a lawyer or a recalcitrant witness that suggested the theory that language is given to enable us to conceal our thoughts. After a man has labored for a generation or two, using language the best he knows, to reveal his thoughts, and finds himself thoroughly and completely misunderstood, it is, perhaps, not strange if he abandons the revealment for the concealment theory.

At all events we are most thoroughly convinced that we have, after honest and persistent effort, totally failed to set forth a correct representation of our views on dental caries. Had we been fortunate in the use of language it is not at all probable that such a man as our esteemed friend, Dr. Cushing, would have failed to understand us. But in his valuable and well written paper, read before the Odontological Society of Chicago, October 22, 1886, we find unmistakable evidence that he has not understood us, or we have all along labored under a misunderstanding. We do not claim that he has *misunderstood our language*, for it may have expressed the exact opposite to the idea intended. This paper we find at page 14 of the *Dental Review*; and by giving it a little friendly attention it is barely possible that we may yet be understood as to our views on dental caries.

On page 14 he adverts to the "fact that no one of the theo-

ries that has yet been propounded, viz: the chemical, the chemico-vital, the inflammatory, or the germ has been or is satisfactory as considered by itself." This is certainly true. Nothing in nature or art "has been or is satisfactory as considered by itself," or away from its associative or surrounding circumstances.

On page 15 we are told "A brief resumé of the various theories is necessary to the proper presentation of the subject." And he proceeds thus: "The chemical theory holds that decay is produced solely through chemical action, regardless of other conditions." And if this is the correct definition of the chemical theory, we know of no one holding to it; and we have no recollection of any one holding such sentiment. And total neglect is the proper treatment for this theory; for it has no support either from science or truth.

In defining the chemico-vital theory, the paper describes it as holding, "That chemical action is the immediate cause, but is largely influenced by varying vital conditions, or perhaps it would be best expressed by saying that the power of resistance to the action of destructive agents is so much lessened at times, that chemical action takes place, which would not occur under conditions of perfect health."

This is a reasonably clear definition of the chemico-vital theory, which is in full accord with the views which we have held and tried to maintain for over thirty years. We regret very much that in upholding it we have been so unfortunate in the use of language that we are still misunderstood, as is proved by Dr. C.'s remark in this same paper, as follows: "Dr. Geo. Watt, who is probably the strongest advocate of the absolute chemical theory," etc. Often and over we have wearied—perhaps disgusted our classes by insisting on "the circumstances which modify affinity," and in no chemical actions more than when considering those concerned in the development of dental caries. Often have we heard our pupils in discussing such subjects, when one seemed a little too absolute in reference to the action that he claimed must occur, a comrade would suggest that he must not forget "old circumstances."

Among the modifying circumstances to be considered in speaking of dental caries are the degree of vitality, local and general, the hardness of the teeth, the age, and the sex of the patient, the character of the oral and gastric secretions in health,

and their various modifications by disease, the temperament of the patient, etc.

Every one is aware that a chemical reagent acts with more vigor on chalk than it does on marble, yet the nature and result of the action are identical. In like manner a soft tooth is attacked by an agent harmless to a hard one; and dentine is corroded by agents harmless to enamel.

But after all, is there any disagreement between Dr. C. and us in this matter? He says, after defining the various theories, "It is almost certain, it seems to me, that all these theories are entitled to consideration in determining the causes of caries. I presume no one will attempt to deny that the immediate disintegration of tooth structure in the process denominated caries, is caused by chemical affinity, chiefly, if not entirely, by the affinity between certain acids in their nascent condition and the lime salts of the substance of the tooth, but there has been great diversity of opinion as to the origin of these acids."

Now we can ask for no better or sounder doctrine than the above, except that, thinking of caries as a unit, the writer has forgotten, for the time merely, the fact that in white decay, the most rapidly destructive of all, the organic material of the tooth is acted on by the chemical agent as surely as are "the lime salts of the substance of the tooth."

We have often taught, verbally and in writing, that whatever the predisposing causes, such as imperfection of structure, etc., may do in the production of dental caries, no tooth is so defective in substance and structure, that it will spontaneously disintegrate, in the form of dental caries, without the intervention of chemical reagents. And in thus teaching we honestly think we were upholding the chemico-vital theory, as really and as truly as it is now upheld by our friend Dr. Cushing in this valuable paper.

And if more is necessary to show that we have no disagreement with Dr. C., take the following, on page 16, where he is speaking of predisposing causes or conditions. He says, "Without some of these antecedent conditions, in very many cases there would be no caries, though acids might be formed about and upon the teeth in almost unlimited quantities; but granted that all those conditions most favorable to the advent of caries were present, it is evident that without the acids there could be

no decay at all. Now these antecedent conditions are more or less remote and very difficult to deal with—the constitutional treatment which should place them under our control having not yet been devised—but where we come to *the acknowledged immediate cause* of tooth disintegration—the acids—we are confronted with an enemy that seems more tangible than any other, and are seemingly brought to the point of dealing with this question as though, as I said before, the strictly chemical theory were the true one.”

It seems then that if the acids are “the *acknowledged immediate cause* of tooth disintegration,” the only matter left for dispute is the source of the acids. (Italics ours, here and above.) And here we are in full sympathy with all who are searching after the truth. Previous to our becoming identified with the dental profession, like most physicians, without even knowing why, we held to the inflammatory theory of dental decay, probably led astray by the use of the term caries. Becoming a dentist, we began a careful investigation, and were surprised to find all dentists worthy of the name recognizing acids as the immediate, direct, or exciting cause. Some used the one, some another of these adjectives to describe the character of the cause referred to, all carefully drawing distinctions between predisposing and exciting causes. On examination we soon recognized the reasonableness of the acid theory, but what acids? That was *the* question. It is the question yet. We began a careful and prolonged series of experimental investigations and gave our conclusions to the profession, and have, so far, stood by these simply because we believe them true. We tried to give a reasonable account of their origin and still believe they may come from the sources described. But if it is found that germs produce the same acids, we have only another source to watch, while the fact says nothing against the chemico-vital theory.

The fact that many persons escape the ravages of dental caries to a good degree, who according to our theory of the source of nitric acid in the oral cavity, must have more or less ammonia formed in the mouth proves little if anything. In malarious regions many escape the ravages of the malaria, yet enough fail to escape to afford ample proof of their existence. Some have such solid teeth that they resist almost any chemical action. And the ammonia, as fast as formed, may be, in very

many cases, taken up by the hydrochloric, carbonic, or other free acid in the buccal fluids. Nature's design is to neutralize all such mischief by chemical reagents of her own providing, and it need not surprise us that she often succeeds. Besides, our friend, Dr. C., falls into a line of thought as if nitric acid from ammonia were the only acid concerned in the causation of caries, whereas a large majority of cases are of an entirely different nature. That form of caries in which much of the organic material of the dentine is still found in the cavity, with the lime salts entirely dissolved and washed away, is by far the most common, and nitric acid and ammonia bear no relation to it. And they are alike absent in the black decay.

A case we saw not very long ago illustrates the combined action of the predisposing and exciting, or immediate causes. A healthy young lady of twenty, having sound teeth, was stricken down with typhoid fever. As is not uncommon in that form of disease, her breath was loaded with fumes of sulphuretted hydrogen. A few weeks after recovery she had robust health, but her upper incisors, cuspids and bicuspid had proximal cavities of black decay. Is it not probable that the sulphuretted hydrogen was held in solution by the saliva, and oxidized into sulphuric acid and water, and that the depressing influence of the disease had impaired the resisting power of the vital force in the teeth, and by such combination of circumstances the result was as above described?

Nor is it an objection to the chemico-vital theory of decay that there is "frequent recurrence of decay in mouths that are kept unusually clean, where deposits of nitrogenous food are never left to putrefy, and thus furnish the ammonia to be oxidized into nitric acid." Nor is the following sentence from the paper, in the same paragraph, an objection to the theory. Near the bottom of page 17 he says, "In many of the cases of recurrence of decay to which I refer, there is no evidence to the presence of ammonia from any source."

The above might be against our favorite theory if but one variety of caries existed, and that the one known as "white decay." But by far the most common variety of caries would be prevented, rather than encouraged by the presence of ammonia; for if, as we verily believe, its exciting cause is hydrochloric acid, the ammonia would neutralize this acid and thus prevent its

action by the formation of a harmless neutral salt, known as ammonium chloride.

And, on the other hand, the hydrochloric acid, often, if not generally found in greater or less abundance in the buccal fluids, neutralizes—at least it may—the ammonia present, and thus prevent its oxidation. So many are the modifying circumstances, that it is hard for the mind to grasp them firmly, or even to see them clearly, yet they must all be considered in the formation of correct judgment in regard to the processes involved, and now under consideration.

In a preceding paragraph we have said that the immediate, or exciting causes of dental caries is still *the* question of all before the profession. It is humiliating to the medical profession that the most common and probably the most painful ailment of humanity was so little investigated that the young giant Dental Surgery sprang into existence to find the physicians almost unanimously holding the inflammatory theory of dental decay. Indeed, as far as our observation extends, they nearly all hold this theory now, or none at all. A reminder of this fact, and that they all grew eloquent in discussing about the hooks and crooks of their barbarous cant hooks, not forgetting that they actually took out people's teeth with them, ought to tame them into the most beseeching humility whenever they incline to become too saucy and self-important to recognize dentists as their equals.

And unless this matter about the exciting causes of dental caries is soon settled beyond all possibility of dispute, the dentists will have similar cause to be humble and mindful—not of death, as the catechism has it, but—of our own ignorance and stupidity.

Perhaps no one in our profession, in the last thirty years, has been more frequently criticized than the writer of this. And we are glad to be able to state that the criticisms have always been a source of enjoyment and pleasure; for they gave evidence that the subjects we wished to have investigated were engaging the thoughts of our professional brethren. We wish these thoughts industriously continued till a complete and final solution of the vexed questions is reached. It is a small matter what becomes of us or our theories, if only the truth is reached. Drive the car of advanced thought over all such obstructions, even though it grind them to powder. It is not necessary, therefore, to speak of the delight afforded by the paper read by Dr. C.

This article was begun for a page, but it will grow, hence we may as well notice another point or two of this very suggestive paper.

On page 18 we find some results of Dr. Black's experiments and researches; and for these we have a most profound respect. His report of these is as follows: "From Dr. Black's experiments, if I understand him correctly, it is found that these micro-organisms colonize and develop most frequently between the teeth and in their fissures, and that under favorable conditions (which, perhaps, are not yet clearly understood) they multiply with great rapidity, and are constantly giving off their waste products in the form of nascent lactic acid in direct contact with the tooth. Now here we may have an ample explanation of the cause of decay in such cases as cannot be traced to nitric acid, as the product of the oxidation of ammonia."

But the above extract, we fear, does not explain the most common variety of dental decay. In our experiments, quite numerous and tried long ago, with no theory to bolster up, and with plenty of time, we found that nascent lactic acid dissolved the entire tooth substance as far as it acted, leaving a smooth surface in the bottom of the cavity, as we see in erosion.

It seems, too, that the little germs are fastidious. In order to their forming "acid they must be fed on sugar or starch, and in order that they shall produce the gelatinous material (to hide themselves) they must be surrounded at the outset with an alkaline medium."

Here we have exactly the most favorable conditions known for producing *acid*, if not a germ bug or bush were in existence; and is it not a nice point to decide whether the acid results from the germs or from chemical affinity? We have as much confidence in these observers and experimenters as in any we ever saw; but when we get down to such minutiae it is easy to be mistaken. This was lately illustrated in a murder trial here. Was a certain portion of matter blood clot or débris? was the question. Microscopic experts from distant cities and colleges were consulted. One produced hæman crystals from the supposed clot, and from a drop of his own blood. These were magnified to three hundred diameters and placed side by side. To us they looked as much alike as flaxseed beans, or grains of wheat. The experts divided. Some said they were identical, others that they bore

not the slightest similarity in appearance. Yet these were all experts; and this is mentioned to remind the reader not to be too credulous as to microscopic reports; yet we regard microscopic research as invaluable.

And before dismissing this subject we feel like suggesting a little more accuracy or definiteness as to which division of the organic kingdom produces these micro-organisms. The germ theorists so generally speak of their feeding, being fed, etc., that if charged with the crime, we shall plead guilty to the introduction of the term "Bug-theory." Having used it without any belief in bugs, others copied the title, till it was forgotten who was "first in the transgression;" and we all got a fatherly lecture reminding us that "vegetable life" was the true expression of their vitality. Yet they are still spoken of as bugs, worms, insects, etc. For instance, on page 18, Dr. Cushing says, Black has demonstrated that "they must be *fed* on sugar or starch." But if of the vegetable subdivision, should he not say *manured* or *fertilized* with, etc.?

In drawing to a close let us say that we are more than delighted at the suggestions offered as to further experiments. Not in good condition to make many of these personally, we are all the more encouraged. This entire question ought to be, and can be settled in a few months, and it is a disgrace to our profession to permit the present state of facts to exist, and all the more if we let them continue.

In private conversations, if not in their public teachings, such men as Professors James Taylor, Chapin Harris and A. Westcott, taught that acids in general would cause caries if in contact with the teeth; but we never could believe that they meant this. For carbonic acid, tannic acid, and scores of others could not possibly have such effect. And some taught that to produce caries the acting acid must have a stronger affinity for lime than phosphoric acid has. And they would put in a tabular form such acids, and in their relative order. But in some paragraph (its place not now remembered) Professor Harris says that this theory will not hold, for many acids besides these are capable of producing caries.

With all such teachings we were greatly dissatisfied. Bearing in mind that chemical actions are definite in their nature, and finding but a few kinds of chemical reactions in caries, we

could not fail to recognize that these were caused by a corresponding number of chemical reagents. Hence regarding the field of investigation as thus very much narrowed, we at once, with courage and hope, raised the question, "What acids?" And if any specific, definite, and prolonged experimentation on this question had agitated the minds of individual dentists, we had failed to make their acquaintance, or to hear of their special researches.

Our last experiment on this subject was to find a decidedly acid reaction in a covered cavity of white decay. The contents of the cavity were digested in distilled water, and this solution was neutralized with a solution of carbonate of potash. This was evaporated on a clean slide, and the process of crystallization was carefully watched, and definite crystals of nitrate of potash were formed. We had no doubt at all that, in this observation, repeated twice with the same cavity and with the same results, we had found nitric acid. Of course this would be actively taking hold of the dentine and other materials, but we presume that, being partly shut away from contact with the dentine, it was formed more rapidly than it was saturated. Previous to this observation we had rested content to find the tracks of the animal in the shape of nitrates.

In setting forth the results of our observations so early in our career as a dentist we feel that it is quite probable we stimulated thought in the direction of this inquiry. And this far more than pays us for listening to all the criticisms put forth. Again we would say that these criticisms have always given us pleasure, partly because they have always been respectful, but mainly because they gave evidence that research was taking the proper and the desired direction.

A HINT TO THOSE USING CONTINUOUS GUM FURNACES.—A Chinese cook in our employ had suffered repeatedly from attacks of conjunctivitis owing to his labors over a hot stove. Not long ago he appeared in large Chinese spectacles, tortoise shell rims and plates of mica, transparent and non-magnifying. With these he goes happily to his work, and so far with no fear of a return of the conjunctivitis, and reasonably too, as mica is notably a protector against heat. Consulting standard works on ophthalmology I find no reference to its use in occupations exposing one to conjunctivitis from heat, and the idea is certainly worthy of our remembrance.—*Boston Med. & Surg. Jour.*

Compilations.

"Gather up the Fragments."

PAIN.*

BY JAS. T. WHITTAKER, M.D.

It is a platitude to say that every man suffers pain. Disease, that is, lack of ease, is almost a synonym of pain. It would be a weariness to repeat the saying, that man enters life with a cry and leaves it with a groan, for while these manifestations are expressions of it, man is on both occasions unconscious of pain. Guerazzi says, in remarking upon the universality of pain: "Men are accustomed to say, faithful as a dog. They deceive themselves. They should say, faithful as pain." Butler declares, "Our pains are real things and all our pleasures but fantastical." Milton writes:

"Sense of pleasure we may well
Spare out of life and not repine,
But pain is perfect misery, the worst of evils,
And excessive, overturns all patience."

And Goethe expresses the intimate relation of pain to our bodies by fixing it in the framework of our construction, the bones. Thus Gretchen cries out in her anguish, "Wer fühlet, wie wühlet der Schmerz mir im Gebein." [Who feels, how rages the pain in my bones.]

In estimating the importance of pain as a sign of disease we must take into account first, the degree of perception or endurance. Races and individuals differ greatly in this regard. Moreover, the same individual shows difference at different periods of his life. It is certainly not true that "the poor beetle that we tread upon * * * feels a pang as great as when a giant dies." The same fish has been caught with a bait of its own eye torn out on a former cast. Eviscerated sharks, with trailing intestines, continue to follow ships. This insensibility to pain grades up through the animal scale and shows variations in

* Abstract of an Introductory Lecture delivered at the Medical College of Ohio, Sept. 15, 1886.

degree among species or races and individuals. Contrast the stoicism of the Spartan or Indian with the cowardice of the African or Irishman, or compare the state of the same individual in poverty and luxury. Hysteria and hypochondriasis are conditions which show extremes in both directions. The victim of hysteria suffers agony from an imaginary pain, or bears without murmur the infliction of great torture. In the state known as ecstatic, individuals have suffered martyrdom at the stake without evincing a sign of pain. The fact is, there is a point where pain becomes a pleasure, just as unpleasant appeals to the special senses, the odor of assafoetida, burnt feathers, etc., may be appreciated with pleasure. In hypochondriasis there is not so much a morbid exaggeration of the sense of pain as a concentration of the mind upon the workings of the internal organs. A healthy man would feel the same pain or distress if he subjected himself to the same scrutiny.

But the power of the imagination in the experience of pain is not limited to nervous people. A sufficiently strong impression may evoke it in the strongest men. Thus, Hinton mentions the case of a butcher, who, in the act of suspending a joint of meat, slipped, and hung himself by the arms upon the hook. The patient was carried in collapse to a neighboring drug store, where his coat was carefully removed under manifestations of the most agonizing pain. But when his arm was bared it was found to be entirely unhurt. The hook had merely cut through the sleeve of his coat.

On the other hand, a mental impression of a different character may entirely abolish pain. Thus fright gives oblivion to pain. Livingstone describes how he saw a lion spring upon him, felt it carry him to the ground and crush his arm and shoulder with its teeth, without the least appreciation of pain. So soldiers fall in the flush of battle for a long time insensible to pain. So also, as Benvolio said to Romeo, "One pain is lessened by another's anguish."

It is not so much the presence as the persistence of pain that declares the existence of disease. Evanescent and transitory pain is so common as not to excite suspicion, but constant or continuous pain means disease that requires attention. A transient headache may be produced by a thousand causes of trivial nature, but a persistent headache would mean serious poisoning of the

blood or pressure upon the brain. A "stitch in the side" is a different thing from the persistent pain of pleurisy, and the pain of an indigestion which disappears with digestion is quite different from the constant pain of cancer of the stomach.

The degree and duration of pain also are of more value than its character. The excruciating pains of gall and kidney stone, of *tic douloureux*, the anguish of a distended bladder or an *angina pectoris* are paroxysmal. The pains of labor distinguish themselves by the fact that they come and go. In fact, intense pain is never continuous and never lasts long, not because, as Metastasio said, "we grow accustomed to it," but because the nerve-centres appreciating pain become exhausted. Perhaps it might be true to say that they are drowned under the waves of great pain, and must have some time in which to recover. "*Dolor magnus nunquam est longus*," said Seneca.

The nerves of the skin have three separate functions: touch, temperature, and pain. The question arises are these totally dissimilar functions performed or conducted by the same nerve-fibres? It is already a well established fact that nerve fibres of however different function are alike, and that the function of a fibre is determined solely by its attachments; and it has long been known that an impression made anywhere in the course of a nerve-fibre is appreciated at its service of distribution. What difference would it make in the ringing of a bell whether we pulled the handle, the wire anywhere in its course, or jangled the bell itself? This appreciation at the seat of origin or insertion is known in neuropathology as the "law of eccentric projection." This law implies, of course, a continuous tract of axis cylinder from one end of the nerve to the other. It would, hence, seem probable that different nerve-fibres come to be set apart for the distinction of the different impressions made upon the skin. The older physiologists believed that the same nerve-fibres officiated for all impressions, seeing that touch so often passed over into pain, but the observation of cases in which the senses of touch and temperature were preserved, while that of pain was lost, or of the conservation of the sense of pain in the absence of that of touch, has lead, or is leading, to the adoption of the view that each sensation is conducted by its own fibres, in the mixed bundle of nerves everywhere supplied to the skin.

But while this view is probably correct it is none the less

true that fibres of similar character freely inosculate. Hence it is that the sense of pain is never strictly localized. The seat of pain, in other words, is, as a rule, vague, diffuse, or indefinable. Most patients find it quite impossible to exactly localize the seat of even atrocious pain. "*Giudice injusto delle cose é il dolor,*" said Metastasio. (Pain is an unjust judge of things.)

Modern science will have nothing to do with "sympathetic" pains; such pains are reflected through associated nerves. The mystery of the shoulder-tip pain in hepatic disease was solved by Luschka with the discovery of the inosculature of the phrenic and fourth cervical nerves, and pain in the knee in hip disease, in the head of the penis in stone in the bladder, in the groin in vertebral caries has long since met with proper interpretation. Knowledge of this association of nerve-fibres often enables us to make a diagnosis in the absence of more positive signs.

Thus Hilton makes a fine point regarding pain in the auricle, which in its upper anterior part is reflected through the trigeminal perhaps from a carious tooth or a cancerous tongue, or if in its posterior part (great auricular nerve) through the spinal nerves which issue between the second and third vertebrae from a caries of the spine. The constant pain in the back, "between the shoulders," finds its explanation in the connection of the fourth, fifth and sixth dorsal nerves with the splanchnic in some of its ramifications among the viscera.

Disease of the internal organs does not manifest itself so much by pain as by different distress, and is much less localized than on the surface. Thus nausea, anxiety, faintness, oppression, are the signs of pain in the viscera. Perhaps the best available comparison of these different impressions is seen in the very different sensations which follow injury to the testicles, internal organs, and the scrotum, a part of the skin.

We hear so much said of the misery of pain that we are apt to overlook the good of it. Pain, as a preserver of life, as "nature's kind harbinger of mischief," is worth a lecture by itself. The victim of the loss of all pain, described by Spaeth, suffered every kind of mutilation and deformity before he was finally relieved by death.

The fact is that it is not often the presence but the cessation of pain that is ominous. The apathy of cholera, the sudden relief that occurs in collapse as after perforation, or after a hem-

orrhage in typhoid fever, are entirely illusory. Hilton wrote a book which made him famous on the rest which pain compels and which often alone leads to restoration and recovery.

The effect of pain upon the character and disposition we have no time to discuss. The saturnine disposition of the gouty patient, the cynicism of the dyspeptic, and the irritability of the rheumatic are too well known. The curious grim humor of the victim of locomotor ataxia is an irony of fate. Great fortitude of character, the fine qualities of patience and resignation, are often also developed by pain and acts of heroism are displayed in its presence. Tommaseo derives the greater sympathy of woman from the pain of maternity. "Chastened by suffering" is a common saying, and none was perfect, it was written, "like unto Job." Pain teaches us, said Cantu, that "life is not a diversion but a duty," and Tommaseo declares that "a man not educated to pain remains a child."

In the presence of irremediable pain, as in cancer, certain neuralgias, tabes dorsalis, etc., it is advisable that patients should continue at some form of employment as long as possible. We all learn the effect of mental work in dissipating pain to which we may not become accustomed by either patience or philosophy. "The labor we delight in physics pain."

It is a curious fact that the same word pain has its exact equivalent in so many languages. Thus Greek, *nóvos*; Latin, *pena*; French, *peine*; Italian, *pena*; Anglo-Saxon and old German, *pin*. A pang is a sudden sharp pain. May it not be that the word is derived from the sound uttered with compressed lips partly through the nose. The same word expresses toil, labor, work. Hence, probably Verri's words, *Dal dolori l'arte attinge le piu nobili ispirazioni.* Our highest inspirations come to us through pain.—*Cincinnati Lancet-Clinic.*

NEW REMEDIES.

THE introduction of a new therapeutic agent, be it possessed of decided or only feeble medicinal virtues, is generally marked by three distinct epochs, as unvarying as they are instructive.

In reviewing the observations of careful experimenters, one is impressed by the apparently conflicting ideas and conclusions

based on data to all appearances identical, and it is this fact which, though on superficial observation seems misleading, in reality opens a vista of more careful study, as it enables us to eliminate those sources of error which on critical analysis present themselves.

The first epoch in the "therapeutic life" of a new drug (the term new being restricted to its application in medicine) is generally ushered in by a report of cases in the practice of Dr. A, who learned from the natives of a country, B, that a certain plant possessed remarkable powers to combat disease. The unscientific and necessarily crude data furnished are taken as a basis for observation, and the "remedy" is applied to those diseases the removal of which the drug in question has the reputation of effecting.

If, now, a few cases of a given complaint progress favorably under the administration of the "new remedy," the conclusion is at once "jumped at" that a new therapeutic agent of great value has been discovered, *vide* observations and report of Dr. A, the self-limited nature of many diseases, and their tendency to improve without any "treatment," being entirely overlooked.

If, however, investigation be carried further, and the physiological action of the drug be closely studied, it may be found that its action is potent in the very opposite direction from the one first supposed correct.

The second epoch begins with the more general use of the "new agent" by the profession. Manufacturing chemists are now ready to supply all demands for the newly discovered "specific." Many physicians, led away by the now steadily increasing number of reports regarding "original observations," etc., are induced to likewise prescribe the "new medicine," and *they*, in *their* turn, as the sacred fire seizes them, enlighten their still benighted confreres on the properties of the remedy, as obtained in one or perhaps two cases.

These observations, in many instances made by men more zealous than careful, are of very little scientific value when taken singly, but point to stubborn truths when viewed collectively. One is at once impressed by the fact that, under precisely the same conditions and with like surroundings, entirely different results are obtained, even where the observer's accuracy and skill are of the first order.

The explanation for this is found in the "preparation of the drug employed," and I may say that herein lies the main reason for the many conflicting experiences recorded regarding new remedies. Are we not frequently disappointed in the results obtained from the administration of such widely used drugs as digitalis and ergot? And do we not know by experience that infusion of digitalis made from some leaves is entirely, or almost, inert? Ergot, when employed to arrest hemorrhage, is sometimes disappointing, and its want of action can often be directly traced to the inferior quality of the drug employed, or its imperfect preparation. If this be true of drugs, the use of which, as well as selection and preparation, are so well known, how much more does this hold good in the case of comparatively unknown plants?

The third epoch commences when order has supplanted chaos, and when reasonable deductions, based on careful observations with reliable preparations, prevail. It is then, and only then, that the drug in question should come into general use and take its place among the many others in the Pharmacopœia.—HENRY SCHWEIG, M.D., in *N. Y. Med. Monthly*.

HEADACHES IN DIAGNOSIS.

1. When pain is located between the ears at the occiput, below the lambdoidal suture.

The gastrodigestive apparatus, the automatic centres of life, and the sexual organs will be the seat of disturbance.

2. When pain is located in the region of the parietal bone, from the coronal to the lambdoidal suture, and from the squamous suture to the superior outline of the parietal eminence.

The duodenum and small intestines will be the seats of disturbance.

3. When pain is located in the forehead, from the coronal suture to the superciliary ridges below, and within the temporal ridges on either side.

The large intestines will be the seat of disturbance.

4. When pain is located below the superciliary ridges including upper eyelids, to the external angular processes on either side.

The nasal passages and buccal cavity will be the seats of disturbance.

5. When pain is located in the temporal fossa, from the squamous suture to the zygoma below, and from the temporal ridge to the mastoid process.

The brain and its meninges will be the seats of disturbance.

6. When pain is located at the vertex, from the coronal suture and two inches posterior to it in the median line, and two inches on either side of that extent.

In the female, the uterus; and in the male, the bladder, will be the seat of disturbance.—DR. C. BENSON, Baltimore, Md., in *Medical World*.

A GLOSSARY OF MICROBES.

MR. W. HAMLET gives the following classification of the microbes (microscopic organisms of fermentation and disease):

1. Microbes which appear as points are called *monads*, *monera* or *micrococci*. They are motionless, and may be regarded as the spores of other microbes. 2. Motionless linear microbes—the *Bacteridians* and the *bacilli*. To them belongs *Bacillus anthracis*. 3. Cylindrical mobile microbes, having rounded ends or contracted in the middle so as to form an 8, are the *bacteria* proper. Among them is *Bacterium termo* of putrefaction, the commonest of all. 4. Flexuous mobile microbes. They look and act like eels, and differ but little from the equally active bacteria. They are the *vibrios*. 5. Spiral microbes, resembling a cork-screw, and mobile; *Spirilla spirochetæ*. Their presence in human blood appears to be connected with intermittent fever. 6. Microbes with heads, very active, having globules larger and more refractive than the rest of the body at one or both ends. These globules are apparently spores ready to be detached from a bacterium—*bacterium capitatum*. Besides these six principal states, the microbes form agglomerations or colonies that often notably changed the aspect of the elementary cells, and which have received various names. Agglomerations in microscopic masses, surrounded by a jelly that sticks them together and deprives them of motion, are called *zoöglæa*. A non-gelatinous membrane formed of motionless bacteria is a *micoderma*. Bacteria attached end to end in a string form filaments of *leptothrix*. A number of spherical micrococci joined one after another form

the string of round grains called a *torula*. A considerable number of species may be included in each of these divisions; and there does not appear at present any way to distinguish by sight a disease-producing bacterium from a harmless one.

ON CHLOROFORM-WATER.

DE BEURMANN recommends in the *Zeitschrift für Therapie* of April 1, 1886, diluted chloroform-water as an antifermentative agent, which is also a local anæsthetic for mucous membranes. It is also useful as a mouth-wash in toothache, and given internally in cardialgia and dilatation of the stomach. In various decomposition processes in the stomach, in vomiting (especially in pregnancy), and as a vehicle for sedative and narcotic remedies, chloroform-water is, in Beurmann's estimation, unexcelled. The following are some of his favorite prescriptions in which the chloroform-water is exhibited:

R Aquæ chloroformii saturat., f̄vi;
Aq. aurantii florum, f̄ii;
Aq. dest., f̄iv. M.

S.—Teaspoonful for a single dose.

R Aq. chloroformii dilut., f̄iv;
Aq. aurant. flor.,
Syr. simpl., āā f̄i;
Morph. hydrochlor., gr. ss;
Pot. brom., gr. 15. M.

S.—Dessertspoonful several times daily.

R Aq. chlorof. dil., f̄iv;
Aq. flor. aur.,
Syr. papaveris, āā f̄i;
Pot. brom., gr. 15. M.

S.—Dessertspoonful as a single dose.

R Aq. chlorof. dil., f̄iv;
Aq. menth. pip.,
Syr. simpl., āā f̄i;
Sodii salicyl., ʒi. M.

S.—Tablespoonful as a single dose.

—*Pac. Coast Rec. of Med. & Pharm.*

A NEW HÆMOSTATIC.—Rothe has ascertained that *urtica dioica*, the stinging nettle, possesses valuable hæmostatic properties.

THE QUESTION OF ADVERTISING A SPECIALTY.

A CORRESPONDENT writes: "Will you please inform me, as soon as convenient, whether the American Medical Association, at their last meeting, changed the Code of Ethics, so that a specialist can state on his card or sign his specialty."

The American Medical Association has made no change in its Code of Ethics, but the fountain-centres of ethical knowledge connected with the Association in question have declared that physicians may print on their cards the announcement, "Practice limited to —," whatever specialty the physician does limit himself to.

This practice, however, is not sanctioned by the profession in general, and fortunately is not widely adopted. It opens the way to a great deal of abuse, and may speedily bring the physician to the level of the ordinary advertising charlatan.—*The Med. Record.*

Correspondence.

"I charge you that this epistle be read."

THE PROPOSED OHIO DENTAL LAW.

EDITOR JOURNAL:—I wish to say a few words in regard to the proposed new dental law, as published in the JOURNAL last year. I am opposed to any law that forces the student behind our dental colleges for authority to practice. Such a law would destroy the incentive for a collegiate education in dentistry. Students will say it is of no use for us to spend our time and money attending college as there is no honor in it or authority to practice. Then it brings disgrace upon our colleges and lets the profession out to jobbers. It is a virtual acknowledgement that our colleges are of no account, and if they are not, what better can we expect of the Examining Board—the jobbers, before whom we would be summoned to get our authority to practice. Such a law, in my opinion, would disgrace our dental colleges at home and abroad, and lower the standard of the profession to

that of a trade, or, in other words, rob it of all professional dignity. We see no such uneasiness in the ranks of the regular medical profession as there is in ours in regard to authority to practice. They are content with the authority vested in their colleges. If it is quackery that our honorable leaders in the profession are striking at, through the new law, I think there is a better and shorter means of suppressing it than the "new law." It is evident, in our profession, that quacks cannot do a local business. Then frame a law making it punishable by fine and imprisonment for any man to practice, or pretend to practice dentistry, excepting in an office furnished with chair and other paraphernalia of a dentist. And all who are not graduates to be examined under the present law on that subject. Such a law would stop all the traveling quacks who are humbugging the people. They are the ones that disgrace our profession. I submit these few crude ideas to the profession for what they are worth. I am not a writer nor a leader, but have my opinion of things all the same.

TROY, OHIO.

BROWN'S BLOCK.

TO AVOID SYPHILIS IN TRANSPLANTING TEETH.

EDITOR JOURNAL :—There is a strong, and with many dentists, an insuperable objection to transplanting teeth, and that is the danger of communicating syphilis, of which several fatal cases have been reported.

Dr. Younger's facile invention of boring holes in the maxillary bones and inserting natural teeth, avoiding the annoyance of plates and other appliances, adds largely to the inducement to resort to this mode of supplying substitutes for lost teeth. As it has been shown that a tooth may be successfully inserted by this process fifteen months after extraction, why may not teeth unused for an indefinite period, if from subjects well preserved by embalming or otherwise, be judiciously employed for this purpose?

Since syphilis was unknown among the ancient Egyptians, would it not be well to resort to the mummies for teeth to replant? As syphilis was never found among any uncivilized people, unless introduced by those civilized, perhaps the beautiful teeth of the mound builders, which are obtained at several localities in Ohio, might be safely employed in this operation.

Dow 3D.

DENTISTRY A SPECIALTY IN MEDICINE.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—The subject which has most agitated the dentists of this city for the past few months, and in fact of a number of the larger cities, is the effort made by prominent men in the dental profession, to have resolutions passed, by some of the leading dental societies of this country, declaring dentistry a distinct and independent profession. Dr. N. W. Kingsley seems to have been the leading spirit in this movement, and on November 19, 1886, a special meeting was held by the First District Dental Society of the State of New York, for the purpose of listening to Dr. Kingsley's carefully prepared paper entitled Dentistry not a Specialty of Medicine. Immediately after the reading of the paper and its endorsement by a few of the authors's friends, a set of resolutions was offered for the consideration of the society, declaring in substance that dentistry in America is practically an independent profession not subordinate to any other, and that in the interests of dentistry as an independent profession, steps be taken looking to the formation of an International Dental Congress at an early date.

Notwithstanding the very skillful manner in which the matter was prearranged and conducted by those who were so anxious to push the resolutions through, they were passed over from one meeting to another, and finally failed to be endorsed by this representative body, which stands first in all the world as a dental society, noted for its thoughtful and learned men and its good works. The report in the December *Independent Practitioner* that the society had endorsed the resolutions was unauthorized and not true. I understand the resolutions were passed by a society in Chicago, the result in my estimation of too much haste and not enough sober thought and temperate discussion. The object of these resolutions is apparently to sever all relationship between dentistry and medicine and establish the former as a distinct profession, and also to prevent the formation of a dental section in the forthcoming International Medical Congress to be held in Washington next September.

The question whether dentistry is, or is not a specialty of medicine is not entirely new to us, for it has been discussed from

time to time by the profession without determining the relative status of dental surgery. It ought to be more thoroughly agitated, earnestly and deliberately, by all the dental journals and dental societies of this country, and thereby enlighten and qualify every dentist for an unprejudiced decision on the subject, and thus settle the matter forever, of the relationship to the mother profession.

However I must emphatically take exception to the idea that dentistry is not a specialty of medicine. I cannot comprehend how any dentist who has the education and thorough knowledge of his specialty, and particularly those who have had considerable experience and are familiar with the details and requirements of a dental practice, and those who realize the vast amount of physical suffering relieved by the services of a dentist, as the result of a medical and special education can claim, in view of these facts that dental surgery is outside the pale of medical recognition. I would not be so bold as to claim that the mere assertion that we are specialists in medicine makes us so, but it is a fact that medical science is the very foundation upon which we build, and a dentist without a general knowledge of anatomy, physiology, pathology, materia medica, therapeutics, etc., is not a dental surgeon and should lay no claim to being one.

The practice of our profession involves the continuous study of the pathology of the living tissues with which we have to deal and the restoration of the diseased and wasted parts by means of medical, surgical, or mechanical treatment. The fact that Dr. Harris and his colleagues were denied admission to the medical colleges many years ago, is no reason why we should sever our relationship to the medical profession. That grand old profession has always been cautious and slow to recognize specialists. In the days of Harris and Bond dentistry was in its infancy and that the medical profession at the time refused to acknowledge dental surgery as a specialty of the healing art, is not so very strange when we stop to consider the marked opposition to the recognition of any specialists branching out from the regular practice. General surgery, ophthalmology, orthopædia and other specialties had a short and successful contest for recognition, and it has been the outcome of that steady growth and development which must go on to the end of time, and to-day the medical profession at large not only look upon general surgery, ophthalmol-

ogy, gynecology and orthopædia as specialties in medicine, and acknowledge dental surgery not only a branch of medical science, but as the late Dr. Frank Hamilton said, a "learned profession." The argument advanced by some that dentistry is a distinct profession because of the mechanical methods employed in many of its operations, is very poor reasoning to say the least. In some of the specialties mentioned mechanical treatment enters quite largely.

That many of the operations performed in dental surgery are mechanical in their nature I do not deny, but mechanical and manipulative ability are not the only requisites for an intelligent and skillful dentist, if they were, then dentistry could never have been raised above the plane of a mechanical trade. The dental specialist should have a medical education to enable him to make an intelligent diagnosis, prognosis, and to rationally treat the pathological conditions of the oral cavity, also for the proper guiding of the movements of his mechanically trained fingers, in the alleviation of human suffering.

The tendency of the times is towards a higher education of the dental specialist, and the medical school with its dental department is infinitely better than the separate dental school. I have no doubt if the support of the profession would warrant it that the medical colleges of this country would establish in their institutions chairs of oral and dental surgery, and provide for the teaching of the principles and practice of dentistry with suitable accommodations and appliances. This, probably, cannot be accomplished immediately, but will certainly follow as the result of the rapid strides made by our profession, and the increasing demands of the public for more perfect professional services on the part of all the specialties and the natural tendency of the human mind to a higher order of mental development.

An International Dental Congress might result in great benefit to our specialty if judiciously planned and there is not too much haste exercised in its organization. However *this* is no time to antagonize the forthcoming medical congress, and the arrangements being made for the working of a dental section, and any such movement can only detract from the interest the profession should feel for the successful presentation of their claims. Any attempt at this time to organize an International

Dental Congress would unmistakably be interpreted as opposing the formation and working of the section of oral and dental surgery. The time is near at hand for the medical congress to meet; let the section be formed and there will be sufficient time, later on, for the consideration and establishment of a dental congress, to be held within a few years.

Any attempt on the part of the leading spirits of this late movement toward a hasty action in this matter, would certainly imply that they had some selfish motives at heart; the manner in which this thing was pushed at the special meeting of the First District Society would naturally arouse the suspicion of the unbiased thinker. It is to be hoped that future developments will disprove the suspicion of unworthy motives. In the meantime let us do all we can for the success of the International meeting of this year, and by so doing take another step forward and upward and draw ourselves into closer relationship with our mother profession.

8 WEST 37TH STREET, NEW YORK.

J. STEDMAN CONVERSE.

Editor's Specials.

"Write the Vision and make it plain."

THE IDEAL FILLING.

THE second time it was our privilege to attend a meeting of the Mississippi Valley Dental Association was in 1853. Dr. John Allen was somewhat criticised for having patented the process for continuous gum work. The late Dr. W. H. Goddard said that as soon as he succeeded in producing at will the ideal filling material he would apply for a patent; and he said he verily believed any dentist present would do the same. He added, however, that he would, at the same time he got his patent, retire from practice, partly to avoid criticism, but mainly because he would not need to practice. When asked what he meant by the ideal filling material, he said, it must match the tooth in color, must be easily inserted, and hence plastic, must become promptly hard enough to resist mastication, yet free from objectionable brittleness, and must be easily prepared at not too much cost, and must not disintegrate in the process of hardening.

We then believed that such material might be produced without much difficulty, and we think so yet.

During the next session of the Ohio College, Dr. John Allen, then the professor of Operative Dentistry, told us that he thought he had almost succeeded, for he had a pint or a quart jar full of silex or quartz dissolved into a jelly-like fluid mass, and as soon as he was able to devise a process for hardening it, he would have the long desired filling, reaching the crowning effort of dental progress. Dr. A., though highly practical and thorough in manipulations, was not very well versed in chemistry; for, had he been he would not have claimed, as he continuously did, that his jelly-like liquid was pure quartz.

A little later, at a meeting of the American Dental Convention, perhaps, Dr. Perrine, of New York City, gave an account of what he was pleased to term "soluble quartz." And he seemed hopeful that he would soon devise a way to make it crystallize, and through this source, he thought the desire of all dentists was to be realized.

It is quite probable that he had the same material so hopefully described by Dr. Allen. And if so, this was nothing new; and one difficulty in making it practically useful is that it is more than quartz. Quartz is a teroxide of silicon, if we go by the old, and old-fashioned way of designation. Those who regard the primary element as a metal call it *silicium*, and its teroxide plays the part of an acid, when affinity is properly aided by heat. For instance, if proper proportions of quartz and soda or potash are placed in a Hessian crucible and heated, combination takes place, the quartz, as silicic acid, unites with the base, in either case, giving silicate of soda, or silicate of potash. But sometimes in chemical reactions, water plays the part of an acid, forming a hydrate, and sometimes it acts as a basic oxide, as in the "soluble quartz" experiment, and the jelly-like fluid is only silicate of water. But it is to be borne in mind that the quartz and water are in chemical union, and not merely *mixed*; hence, to get the quartz changed to a solid state, there is decomposition, and the quartz becomes a fine powder; and powdered quartz is not the filling material sought.

It seems not likely that the desired material will be found through mechanical mixtures, yet such manner of union has been relied on, to some extent, by the experiments already tried. Abandonment of this line will be more hopeful as to results.

Many points demand consideration in this line of research. Some materials expand in hardening, and others contract. This ought to remain stationary as to bulk. It must be able to resist the chemical action of the buccal fluids, and must not act as an irritant, and must be so hard that it will not break in mastication, while it ought not to be brittle, or it will not do for contour fillings, and it must be capable of receiving varied tints to suit the various colors of the dental organs; and it is probable that even with these, all the important properties have not been mentioned.

But we do not feel in any way discouraged by such an array; for we believe the requisite material will be found. Indeed we believe the man who will discover it is now alive, and a member of the dental profession. Some one should begin experiments and researches to-morrow, and he should not think of stopping short till he has the material in the market; and all this should not take up much time, nor waste much strength.

Just before the war the American Dental Convention appointed a committee of three to raise a fund and employ a man to devote his entire time to research in the arts and sciences of dentistry and those collateral thereto. If we recollect, this committee was to supervise these efforts, and they gave notice to members of the profession to suggest subjects for investigation, to subscribe to the fund to be raised for the purpose, and to suggest a suitable man, in or out of the profession, to conduct the researches. The war cut short the entire effort, and but one member of that committee is alive to tell the tale. The same method will not likely be taken up again; but modes are nothing, if only ends are reached. Give us the *desideratum*.

Already specimens of artificial stone are prepared having many of the characteristics of the desired filling, but it is doubtful if all yet known are not too long in hardening. Works on artificial stones may give some light, and modes may be discovered that will quicken the hardening process. And if something can be gained in this way, it is possible that the filling may be protected from the fluids of the mouth for a longer period than has hitherto been regarded as practical.

Be all this as it may, let the work go on; and let it be carried to complete success.

JOURNALISTIC RESPONSIBILITY.

LET it be clearly understood that this JOURNAL does not hold itself responsible for the views expressed in its contributions, correspondence, or compilations, except its editorial writing. If anything is found objectionable the pages are open for reply—for confutation. We often publish selections that we do not approve in full, and as soon as convenient we publish others holding the reverse of the objectionable sentiments in the preceding articles, and thus professional thought is aroused and often greatly quickened. In like manner we accept contributions not up to date in dental science,—in fact sometimes decidedly behind the times. The result is that these articles get a genteel, friendly showing up in a following number, which does good to the reviewers, but still better, wakes up the authors of the slow papers, who are not content thereafter till they catch up with the line of advanced thought; and all this is clear gain. We even insert articles holding forth false, or absurd doctrines; yet, if such views are held, they would better be made public, in order that they may be refuted. The profession cannot afford to have any of its members settle down contentedly in error, when exposure is the natural and efficient remedy. Let error be promulgated, and truth will give chase, and will not let up till the game is run down. The JOURNAL's pages are open for the race.

TOO EARLY EXTRACTION OF THE TEMPORARY MOLARS.

IT is within our knowledge that many operators extract the temporary molars, rather than argue the case with the parent or be “bothered” treating the teeth. We desire to call special attention to Dr. Keely's remarks on the subject in this issue of the JOURNAL. Read them, reread them, read them to your patients, “and sin no more.”

OUR PORTRAITS.

WE have in preparation an excellent likeness, from a photograph, of that pioneer educator in dentistry, Dr. Chapin A. Harris, with a sketch of his life.

DR. AARON WASHINGTON.

WE have given in the JOURNAL a sketch of Dr. Merchant Kelly, partly because his relation to and position in the dental profession were unique, yet mainly because of friendly respect for his memory.

In the name above we have another case calling for like notice for similar reasons.

Dr. Aaron Washington was born in Virginia, in the aristocratic county of Hardy, at a date not known by himself or family, but probably in the twenties. In 1849, with brothers and sisters, he came to Greene County, Ohio, and soon obtained a home of his own in the county town, Xenia, where he remained the rest of his life. He didn't marry till somewhat late in life, and his older children died, so that a son of ten or twelve years and one of two or three, constitute the surviving children.

Doctor Washington died the nineteenth of December, 1886. In 1864 he had a severe attack of acute rheumatism which seriously involved the heart and pericardium. This trouble continued, and with advancing age was probably the cause of his demise.

Washington was one of the few men of African descent who engaged in the practice of dentistry. Born a slave, he belonged to a family somewhat indulged, so that less of oppression than usual was involved in their slavery. The Washington family cultivated a farm and managed a small saw-mill, and settled with their owner once or twice a year. The family was freed by the will of the master. Aaron was the youngest—a big boy—when the "free papers" were made out. He was asked in the presence of the writer if he shouted and hurrahed when he got his papers. He said "No, I was afraid to be glad, and told them I would sell myself to Jim, and stay right there. But I had to go for the cows, and in the big hollow back of the barn, if I didn't throw up my old hat and yell."

In June, 1852, the dental firm of Taft and Watt was formed in Xenia, and not long after this Aaron was employed to do miscellaneous work about the office and residences of the firm. It was soon found that he could be used more profitably in the laboratory than elsewhere; and just how and when he became a dentist no one can tell.

After Dr. Taft located in Cincinnati, Washington remained in the employ of the present writer—was in his employ in all about a quarter of a century, without a jar or sign of discord. Raised in slavery, he had not learned to read, and he never became a very ready or fluent reader; and this made it all the more difficult to teach him, as he could learn much faster by listening to conversation than he could by reading. We cannot recall a single instance in which he had to be shown more than once how to do any piece of mechanical work. In the days when gold plates were the rule he was in his element; and few excelled him as a blow pipe manipulator.

It was, perhaps, in the autumn of 1857 that he wished to take a course of lectures in the Ohio College of Dental Surgery. At the same date a native of Liberia had come to the United States to study dentistry for the benefit of his own country, and he wished to take a course in the college. Also, Miss Lucy Hobbs was an applicant, wishing to go through the college and to graduate, as if a man, to use her own language. As Dean of the Faculty, the writer of this brought up the three applications at the first meeting after their reception. By a vote of four to two all the three were rejected. Washington settled down to do the best he could without collegiate instruction; the Liberian arranged for private instruction, and probably returned a half taught empiric, while Miss Hobbs graduated as a practitioner, at a later date, and her professional career is well known as a decided success.

In the earlier years of his connection with dentistry, Dr. Washington's labors were mainly in mechanical dentistry. However he had been extracting, on the sly, for years before we knew it, he calling the fees so received money for repairs. And though naturally left handed, he was so nearly ambidextrous that he used the forceps with his right hand without difficulty.

On returning from the war in the autumn of 1864 we found he had done quite an amount of filling, especially when the time lost by his severe illness is taken into the account. Many of his fillings put in then and later are still doing good service.

As he resided a mile from the office, his daily trips back and forth began to be burdensome; and the combination of age, rheumatism, and bad weather made them very much so. He began to suffer severely from dyspnoea, and palpitation of the

heart. He was advised to change to some light, outdoor occupation for a time, and if his health improved to resume practice at his own house, so as to avoid the daily exposure. His health improved very promptly and rapidly, and for the past eight or ten years he has practiced with his office at his residence.

Early in life Dr. W. professed the religion of Jesus Christ, and became a member of Zion Baptist Church of Xenia, Ohio. He soon became one of the official members, and was a faithful counselor and assistant to the pastor. Within a recent period a new mission congregation was organized, and feeling that this opened to him a new field of usefulness he cast in his lot with the new, and thus was a deacon of the Third Baptist Church, when called higher. He has left a widow and two sons to mourn his departure, one of them too young to realize the nature of his bereavement. A good man has gone.

What We See and Hear.*

EDITED BY L. P. BETHEL, D. D. S.

It is the object of this department to present to our readers in a concise form, important thoughts and sayings of our dental brethren. The thoughts will be gleaned from different portions of society papers, discussions, reports, etc., and we hope to make a column of wholesome food that every dentist should thoroughly digest. If our friends have an original idea, or description of some new device they wish to present, we would be pleased to hear from them and hope all those who have some thought to express, yet find the subject too limited for a paper, or who have no time to write a discourse, will avail themselves of the opportunities this column offers.

DR. BIGNOW in the *Bulletin*, says that cocaine is a physiological antagonist to strychnine, and experimenting on dogs, poisoned with strychnine, has succeeded in saving the animals, even after the first tetanic paroxysm has set in. Only if too large doses of strychnine have been ingested, the animal perishes from the correspondingly large doses of cocaine required.

*It was planned to have this department begin with the January number, but an unavoidable delay prevented.—ED.

A Norweigan surgeon reports a case of death occurring from continued injections of peroxide of hydrogen into the plural cavity. Dr. Wulfsburg attributed the cause of death to the introduction of the drug into the circulation. He thought the blood current might have carried the peroxide, if introduced into a vein, through the heart and lungs almost unchanged and that, after awhile, more oxygen became disengaged than the blood could absorb and bubbles were produced which may have been the immediate cause of death.

DR. KINGSLEY attributes sore mouths from the use of vulcanite, to the carelessness of dentists in not finishing the upper surface of the plate properly.

DR. SQUIBB recommends salicylic acid for the purpose of keeping cocaine solutions free from the formation of microscopic fungi. One six-hundredth part of the acid is added to the alkaloidal salt, or if it be advantageous to keep the solution ready made, use $\frac{1}{2}$ of water and $\frac{1}{2}$ of solution of salicylic acid for the purpose of dissolving the cocaine salt.—*West. Journal.*

M. GALLIPPE has discovered, by means of the Pasteur filter, that a mushroom, made up of mycelium and spores is developed in the saliva. He has christened the fungus growth "*Monilia Sputicola.*"

DR. MERIAM says to protect the parts about a large proximal cavity, when applying arsenical paste, take a piece of gutta-percha and fit it between the teeth, pressing out from the inside with oiled cotton, formed with burnishers, this excludes the moisture and gives, for the purpose, all the advantages of a crown cavity.

To prevent chlora-percha from adhering to the instrument while filling roots, dip the instrument in alcohol as often as is necessary. The filling will take hold of the root better if the canal is wiped out with alcohol.—*Southern Journal.*

To prepare hæmostatic cotton the purified cotton-wool is boiled in a solution of soda, and then plunged into a watery solution of perchloride of iron.—*Record of Med.*

Remote and nearly inaccessible cavities are often difficult to fill with amalgam. To carry the pieces conveniently, partly saturate a pellet of cotton with thick sandarac varnish, touch a piece of amalgam with it and carry it into the cavity, pressing it in lightly. Wipe off the surface with alcohol and condense with

a pellet of cotton and so proceed. Dr. Herbst uses cotton to press a mass of gold into a large cavity. Cotton serves an admirable purpose used in the same way with amalgam.—*Cin. Med. & Dent. Journal*.

Societies.

"Wherewith one may edify another."

MEETINGS.

Louisiana State Dental Association, New Orleans, February 23, 1887.

Ohio Dental College Association, Cincinnati, Tuesday, March 1, 1887.

Mississippi Valley Association of Dental Surgeons, Cincinnati, Wednesday, March 2, 1887.

Michigan State Dental Association, Ann Arbor, Tuesday, March 29, 1887.

Northern Ohio Dental Association, Cleveland, Tuesday, May 10, 1887.

Mad River Valley Dental Society, Dayton, Ohio, Tuesday, May 17, 1887.

Illinois State Dental Society, Jacksonville, Tuesday, May 10, 1887.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Pennsylvania State Dental Association, Cresson Springs, Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September, 1887.

ST. LOUIS DENTAL SOCIETY.

THE officers for 1887 are President, Dr. M. C. McNamara; Vice-President, Dr. Henry Fisher; Corresponding Secretary, Dr. W. N. Morrison; Recording Secretary, Dr. John G. Harper; Treasurer, Dr. A. J. Prosser.

THE MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

THE annual meeting of "the oldest" will be held in Cincinnati, Wednesday, March 2, and our readers should make a note of it and be there. You can get more good attending one of these meetings than from reading the reports of a dozen. The fact that a gold medal is to be awarded the best essay, on any subject, together with the efforts of President Betty, will no doubt result in a most interesting and instructive session. We did not receive the program in time for insertion in this issue of the JOURNAL, but it may be had by addressing Dr. N. S. Hoff, 264 Race Street, Cincinnati.

Books and Pamphlets.

TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION. 26th annual session, Niagara Falls, August 3, 1886. Cloth, 191 pages. Publication Committee Geo. H. Cushing, A. W. Harlan and E. T. Darby. Philadelphia: The S. S. White Dental Mfg. Co.

The essential part of this volume has already appeared in the *Dental Cosmos*, and synoptical reports of the papers and discussions have been published in the OHIO and other dental journals, hence it is of value only to those who wish the matter in collected form or to members of the association. We presume it may be had by addressing the Secretary, Dr. Geo. H. Cushing, Chicago.

CAULK'S DENTAL ANNUAL, Number 5, 1886-1887. Devoted to the collection and dissemination of statistics relating to the Business and Practice of Dentistry. L. D. CAULK, D.D.S., Editor and Publisher, Camden, Delaware. Price Fifty Cents.

This is a neatly printed pamphlet of 96 pages, containing a directory of dental societies—both American and foreign colleges, periodicals, laws, necrology, patents, books and pamphlets published in 1886, dealers in dental goods, besides original articles on various topics.

Each reader of the JOURNAL should send for a copy and thus encourage the publisher. Dr. Caulk certainly deserves the thanks of the profession for his enterprise. The lists are not always complete and there may be a few typographical errors here and there, but any one who has tried to procure this class of matter cannot help recognizing the fact that the editor has succeeded beyond expectations.

THE RELATION OF THE STATE AND THE MEDICAL PROFESSION,
an address delivered before the Alumni Association of the Department of
Medicine and Surgery of the University of Michigan, by CHARLES J.
LUNDY, A. M., M. D.

The above is an argument in favor of a law regulating the practice of medicine in Michigan.

The Dental Register for January comes to us with an excellent steel engraving for a frontispiece. It is the portrait of Prof. Ford, of the University of Michigan.

The Dental Office and Laboratory "a quarterly journal of dental intelligence" begins a third series with the January number, in pamphlet form of 24 pages, having changed from an octavo. It is edited by Theodore F. Chupein, D. D. S., and published by Johnson and Lund, Philadelphia, at one dollar a year.

The Archives of Dentistry, which last year had twenty-six editors of various kinds, announces that, commencing with the January issue, it will change its character somewhat, being urged thereto by "competition, rivalry and even monopoly." It "will give in future more editorial, home and foreign correspondence, short items of news from all parts of the country; or, in other words, the dental literature of past and present boiled down." All of which looks as if the *Archives* intends running a race with the *Review*. The price has been reduced from three dollars to two dollars a year.

The Dental Review announces its editor, A. W. Harlan, M. D., D. D. S., with J. W. Wassall, M. D., D. D. S., J. G. Reid, D. D. S., Louis Ottofy, D. D. S., L. L. Davis, D. D. S., as associate editors. This still leaves the *Archives* numerically in the lead. May both journals flourish and wax fat.

ROOM FOR MORE.—While upon the subject of dental journals allow us to suggest that there are several fields still unoccupied, among others a dental weekly and, sometime since, Prof. Taft suggested journals devoted to the various dental specialties such as oral surgery, mechanical dentistry, etc., etc.

Our Aftermath.

ADVICE.—“When a man comes to me for advice, I find out the kind of advice he wants, and I give it to him; this satisfies him that he and I are two az smart men az there is living.”—*Josh Billings*.

ELECTRICITY AND WELDING.—A discovery of immense importance in the mechanic arts, is the application of electricity to welding. The subtle and invisible fluid is made to accomplish results in this direction that before were with difficulty effected, if at all. It has even served to unite different metals or alloys, a feat in mechanics that has generally been thought impossible.—*Boston Transcript*.

EXPANSIVE ALLOY.—All alloy which will expand on cooling may be made of lead nine parts, antimony two parts, bismuth one part. This alloy can be advantageously used to fill small holes and defects in iron castings.

THE S. S. White Dental Manufacturing Co. has secured control of the Bonwill engine, hand-piece and mechanical mallet; also, Lawrence's amalgam (or “hell-powder,” as the genial maker will remember we used to call it when ordering.)

NITRATE OF SILVER STAINS.—Dip the fingers into a strong solution of cupric chloride. In about a minute the silver will be converted into chloride, and may then be washed off with hyposulphite of soda solution.—*Chemist and Druggist*.

A LINIMENT FOR NEURALGIA.—Guéneau de Mussy recommends this lotion: Essence of mint, ʒv; tincture of aconite, ʒijss; chloroform, ʒi½. Shake thoroughly, and apply to the painful spot on a piece of flannel.—*New York Medical Journal*.

PROPRIETARY MEDICINES.—There are said to be 5,000 patent medicines of American concoction now on the market, and the trade amounts to \$22,000,000 per annum. Of this, \$10,000,000 is expended in advertising, and the net profits are set down at \$5,000,000.

“CHICAGO has eight medical journals, seven medical colleges, and six medical societies,” says the *Independent Practitioner*, and, it might have added, one dental journal, six dental schools (three in operation and three more chartered), and three dental societies.

HERR STRAUSS (yawning)—“How you vas, Hans? You don’t know nobody no more, aind it?”

Hans—“Mine frent, if you vas shut your mouth so I can see your face den mebbe I can tell who you vas.”—*The Judge*.

DISGUIISING THE ODOR OF IODOFORM.—Balsam of fir is recommended for this purpose. Oppler advises the admixture of freshly roasted coffee. Brunelli claims that a mixture of one part of finely powdered camphor with three parts of iodoform completely masks the odor of the latter.

THE prospectus of the *Dental Review* made some of the brethren angry because it said “It is proposed to make the editorial department of the *Review* an important feature; dental periodical literature has shown a deplorable lack in this regard, which it is hoped will in some measure be corrected in these pages.”

A BACTERIOLOGICAL JOURNAL devoted to the subject of bacteriology and animal parasites, will shortly appear in Germany, under the editorship of Dr. Oscar Uhlworm, in Cassel. The extensive and rapidly increasing literature on these subjects, and the absence of any weekly journal devoted to this particular science, will render this venture acceptable to all who interest themselves in these matters.—*British Medical Journal*.

THIS IS NOT AN OLD SAW.—Dr. McKellops of St. Louis thinks rapid wedging is a barbarous practice. Good! We agree with Dr. McKellops. Space for filling is better attained by the old fashioned way of slow wedging with tapes, cotton or rubber. Even if the dentist has no regard for the sufferings of his patients, he gains a valuable advantage by adopting merciful means. The cruel dentist no doubt often makes only half a bill, because his timid patients will not come back if they discover that he is careless about inflicting pain when he might avoid it. It is easy to argue that the “gentle” operator is likely to be a poor operator. That argument may prevail within the ranks of the profession itself, but it is not likely to have many ardent supporters among the laity.—*Cin. Med. & Dental Journal*.

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

MARCH 1, 1887.

No. 3.

Contributions.

“A word fitly spoken is like apples of gold.”—SOLOMON.

A CASE IN PRACTICE.

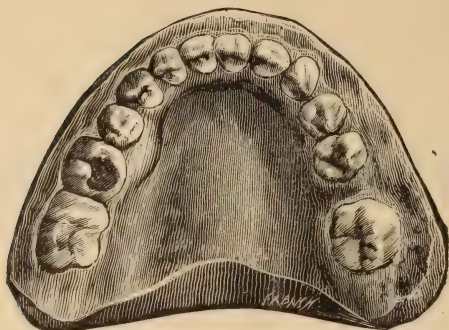
BY GEORGE W. KEELY, D.D.S., OXFORD, OHIO.

WE have heretofore referred to the evil consequences of the premature loss of the temporary molars prior to the eruption of the permanent first molars, or before the latter are fully erupted and in contact.

The following is the case of a young lady aged eighteen, when she came to me December 10th, 1881, as an illustration of the fact. Fig. 1 shows the condition of her inferior teeth at that time.

Prior to the appearance of the permanent first molar on the left side, the temporary one was extracted—on the other side its mate was removed about the time the cusps of the permanent one could be seen—and it came forward and occupied so much of the space due the second bicuspid, when it made its appearance the crown was crowded between the first bicuspid and molar, only a small portion could be seen. At the age of about sixteen the molar was extracted, and soon after the imprisoned bicuspid took its normal position, occluding perfectly with the superior teeth.

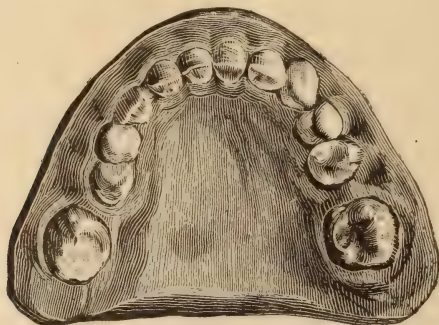
FIG. 1.



It can be seen that the permanent first molar on the left side, came forward bodily, without tilting, and is squarely in contact with the first bicuspid. Being badly decayed, and having for several weeks given the young lady much trouble, it was extracted. On the inside of this cut, opposite the proximal surfaces of the first bicuspid and first molar, may be seen the second bicuspid struggling to erupt, wholly inside the arch, the point of one of its cusps is just appearing. The patient was directed to persevere in pressing on this tooth with her finger to assist in bringing it in place.

Fig. 2 shows the result at the end of six months, when the

FIG. 2.



young lady left school for her home. About eighteen months after, I was informed, the bicuspid was in line, antagonizing with the superior teeth, and the space between it and the second molar was less than half as much as on the other side. Just as soon as the molar was removed the powers of nature went vigorously to work to bring the mal-posed tooth to its normal position. In younger patients such work progresses more rapidly and a tooth

will, as a rule, take its proper position without any outside assistance, soon after the obstructions are removed.

It is simply wonderful how much good can be accomplished, and irregularities prevented by the timely removal of obstructions at the time of the eruption of the permanent teeth of our young patients, and also in improving the appearance of the teeth of very many of our older patients.

It must be remembered that the roots of pulpless temporary teeth will not absorb, though pressed upon by the erupting permanent one, but will be turned aside, either outside or inside the arch, and the timely removal of the obstruction will cause it to take its normal position.

CHEMISTRY AS APPLIED IN DENTISTRY.

BY L. P. BETHEL, D.D.S., TOLEDO, O.

(Continued from page 15.)

SULPHURIC ACID. (H_2SO_4 .)

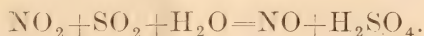
THIS acid can be prepared from the action of sulphur dioxide upon nitric acid in the presence of water.

Reaction :



resulting in sulphuric acid and nitric oxide, but the liberated nitric oxide combines with the oxygen of the air forming nitric peroxide, (NO_2 .) which if brought in contact with sulphurous acid gas and water, is again converted into nitric oxide with the formation of sulphuric acid.

Reaction :



All the metals are acted upon by sulphuric acid except gold and platinum. It is one of the most corrosive acids known. Its affinity for water is remarkable, and in consequence, if water be mixed with it, the temperature of the mixture will be greatly increased, sometimes beyond the boiling point of water. Care should therefore be exercised in diluting. Pour the acid slowly into the water, and at the same time, stir well with a glass rod. When sulphuric acid is applied to animal tissues it effects an

eschar, and, if the application be continued, a rapid disintegration occurs, leaving a black stain. The energetic action and destruction when applied to the flesh, is due, mainly, to its great affinity for water. This it eagerly abstracts from the tissues. The affinity of hydrogen and oxygen, in the tissues, is also quickened by action of the acid, and they separate from the carbon, unite, and form water, which is also taken up by the acid, leaving the carbon, a black residue, behind. Sulphuric acid also has the power of coagulating and uniting with albumen and to dissolve fibrin.

In the laboratory sulphuric acid is used as a bath to cleanse gold and platinum materials. When used for this purpose the acid should be diluted one-third with water. Sulphuric acid is also used in separating gold from silver and copper. By boiling the material in sulphuric acid, the silver and copper are converted into sulphates, with evolution of sulphurous acid gas, and the gold is left as a residue. At high temperatures sulphuric acid is decomposed into sulphur dioxide (SO_2) and water (H_2O). Care should be exercised in handling this corrosive acid as all cloth goods are destroyed by it. Even if in a very diluted form it gets upon clothing, although no action is then perceptible, as soon as the water evaporates, the acid assumes its concentrated form and attacks the material. Care should also be exercised in leaving the acid exposed to the atmosphere in dishes or bottles for it so readily absorbs water from the air that the bulk is greatly increased, and accidents are liable to follow from its overflowing and getting upon materials as before described. In cases of accident with the acid, apply ammonium hydrate (NH_3OH) immediately.

Sulphuric acid is supposed to be the prime agent causing "black decay" of the teeth. Its presence in the mouth may be accounted for in several ways. It is sometimes administered as a medicine. Again it is actually formed in the mouth. Dr. Watt says: "Albumen is a constituent of mucus, and is contained in many articles of food. Sulphur, if not a constituent of, is always united with albumen. Its ordinary presence in the mouth is, therefore, easily explained. Sulphur and oxygen unite directly, under various circumstances, as in the combustion of sulphur, but it is probable that the union here is effected by indirect means. Hydrosulphuric acid, or sulphuretted hydrogen, is

one of the results of the putrefactive decomposition of albuminous substances. Now, the oxygen of the atmosphere rapidly decomposes this acid by taking its hydrogen to form water. The sulphur is therefore set free, and being in its nascent state, its affinities are increased in energy, and it also unites with oxygen, forming sulphurous acid, which in the presence of water of the saliva, is rapidly converted into sulphuric acid."

To test for this acid add hydrochloric acid (HCl) to strong acid reaction, and if a precipitate occurs filter it. To the filtrate add barium chloride (BaCl_2) and boil. A white precipitate insoluble in boiling hydrochloric acid indicates sulphuric acid or sulphates.

Sulphuric acid is an ingredient of one of our best obtunders for sensitive dentine. That recently suggested by Dr. Herbst as follows: "To one-half drachm C. P. sulphuric acid add as much hydrochlorate of cocaine as the acid will dissolve, then add sulphuric ether to supersaturation." In the aromatic form it is effectually used for the removal of necrosed and carious bone, having the power to dissolve it. Its action is the same as dilute sulphuric acid, therefore, care should be exercised in its use about the teeth. It is sometimes applied directly to the teeth for the purpose of removing stains and calculus; but that is bad practice and should not be tolerated. If thus used the teeth should afterwards be thoroughly cleaned with an alkaline wash, as lime water, that every trace of the acid be neutralized, and thus prevent its disastrous effects upon them.

SILVER. (Ag.)

Silver does not oxidize on exposure to the atmosphere, but ozone attacks it forming a black powder, silver dioxide (Ag_2O_2 .)

Sulphur also acts readily on the metal, forming a black sulphide. Silver should never be melted by means of common coal, on account of this affinity, but rather with a charcoal fire.

The chief cause of discoloration of amalgam fillings is this action of sulphur, which is formed by the decomposition of albuminous substances in the mouth, upon the silver, contained in the amalgam mixture, by which a coating of black sulphide of silver is formed.

For this same reason we cannot attach artificial teeth to a base plate of silver with rubber, on account of the sulphur con-

tained in the latter; for when the two are heated together the sulphur attacks and reduces the metal to a sulphide.

When melted in the air, silver has the singular power of absorbing over twenty-two times its bulk of oxygen which gas is given off as the metal cools.

Silver is very soluble in nitric acid, but no other acids have any action upon it except hot concentrated sulphuric acid, which converts it into sulphide of silver. Yet, if boiled with strong hydrochloric acid, it is somewhat dissolved into silver chloride, which precipitates upon addition of water.

Pure silver can be obtained by dissolving coin silver in nitric acid, and to the diluted solution adding hydrochloric acid, which precipitates the silver in the form of silver chloride; this is reduced by suspending it in dilute sulphuric acid, in a platinum basin, with a bar of pure zinc which reduces the first portion of silver by contact, while the remaining portions are reduced by galvanic action, from contact of the two metals beneath the liquid. After complete reduction it should be thoroughly washed.

When silver is dissolved in nitric acid with gentle heat, and the solution evaporated to dryness, a residue of silver nitrate remains. The acid has combined with the metal to form a nitrate, with evolution of nitric oxide gas.

Nitrates are all decomposed by heat on account of the feeble attraction existing between the nitrogen and oxygen contained therein. Nitrate of silver is often used in ulcerated conditions of the mouth, as an injection in diseases of the antrum, as a styptic, etc. As a styptic it is not as effective as some others on account of the clot formed being soluble in an excess of albumen. The local action is due to its decomposition by contact with organic substances, into elementary silver and free nitric acid, which acts as a caustic, owing to its great affinity for albumen. When applied the appearance of the tissues becomes white, the color gradually changing to a bluish gray, and finally black, on account of the silver being reduced by sulphuretted hydrogen in the tissues. The stains, if recent, may be removed by a solution of sodium chloride, which reduces the metal to a chloride of silver, followed by an application of an ammonia solution, to dissolve the chloride. If the stain be an old one, apply iodine, which forms an iodide, and follow by an application of cyanide of potassium

to dissolve the iodide. The cyanide of potassium also should be used with care as it is very poisonous, decomposing readily with generation of hydrocyanic acid.

MERCURY. (Hg.)

The mercury of commerce is never pure. The impurities being chiefly lead, but tin, zinc and bismuth are often present.

To test the metal, scatter a few globules upon a clean glass; if it be much impure a black trail will be left.

Mercury may be purified by shaking the distilled metal with a mercurous nitrate solution, and preserving it under that liquid. Another method is given by Dr. Priestly as follows: "Place the metal with some loaf sugar in a bottle, which, after securely corking, is shaken vigorously for a short time, then uncorked, more air blown in by means of a bellows, recorked and again shaken. This is repeated three or four times when the mercury may be filtered through a cone of smooth paper, with a pin-hole at its apex. The sugar, to which the oxides of the foreign metals adhere, remains behind."

Mercury in the pure state does not oxidize at the ordinary temperature, unless it is very finely divided, when it oxidizes in the form of a gray powder.

When heated above 300° F., it slowly absorbs oxygen and is converted into red-oxide, which combines directly with chlorine, bromine, iodine and sulphur. All the metals are attacked and corroded by metallic mercury except iron and platinum, yet when heated platinum is somewhat attacked by it. Mercury readily adheres to gold and other metals, but may be disengaged by vaporizing with a moderate heat. On account of its affinity for gold and silver it is used to separate these metals, by the process of amalgamation, from their ores.

Hydrochloric acid has no action on metallic mercury, but when the metal is heated with sulphuric acid, mercuric sulphate and sulphur dioxide are formed. With nitric acid we obtain mercuric nitrate, with evolution of nitric oxide.

In the metallic form mercury is not hurtful when applied to the skin, but on contact with alkaline chlorides it is readily converted into a soluble double chloride. Mercuric chloride has a distinct corrosive action when applied to the skin, on account of its affinity for albuminoids. Being very soluble it is rapidly absorbed, and then produces poisonous effects.

It has been claimed that harmful results have accrued from amalgam fillings by the mercury contained therein, evaporating somewhat at the temperature of the mouth, uniting with alkaline chlorides, or, being finely divided, oxidizing and then forming a soluble salt that is absorbed and exerts a poisonous influence on the gums. It is also claimed by some that the sore mouths, caused from the wearing of vulcanite dentures, are the result of this absorption of the mercuric salt, (mercuric sulphide,) used as a coloring material in dental rubbers. It has also been stated that poisonous effects have occurred from the long continued mixing of amalgam in the palm of the hand, due to the finely divided mercury being more readily acted upon and changed to a soluble salt which is absorbed.

Being eliminated principally by the saliva and urine, the presence of mercury may be readily determined. After slightly acidulating the fluid with hydrochloric acid, immerse a short piece of zinc, around which has been wound a spiral of gold foil in such a manner as to expose alternate surfaces of zinc and gold. If mercury be present the gold will be whitened, after twenty-four hours, by amalgamation. If this be dried and heated in the closed end of a small glass tube, mercury if present, will be given off and condense in globules, visible, in the cold end of the tube, with the aid of a magnifier.

ZINC. (Zn.)

At the ordinary temperature zinc is acted upon by the oxygen of the atmosphere and becomes coated with a film of zinc oxide. This film is thin however for the oxide, by absorbing carbonic acid from the air, is converted into a basic carbonate, which protects the metal from further action. In the cold the metal zinc is brittle, but on being heated to 250° F. it becomes very malleable and may be rolled into thin sheets; but if the temperature be raised to 400° F. the metal again becomes brittle. Zinc melts at the low temperature of 770° F. Zinc is the metal commonly used in the laboratory for metal plate dies. There has, however, been much controversy as to its being the best metal for this purpose as it shrinks somewhat on cooling.

Two of our best mechanical dentists and metallurgists differ on this point. One claims that zinc is best on account of the slight shrinkage, which counteracts the expansion of the plaster in the model, and recommends it. The other claims an alloy

composed of 1 part copper, 2 parts antimony and 8 parts tin, which has no perceptible shrinkage, the proper metal. Which is the better our readers must decide, but it is more than probable that *good fits* can be obtained from either.

If zinc is used for the die and lead for the counter die, care should be exercised that the two do not in any way become mixed, for zinc and lead mixed only to a limited extent, and when melted together the lead, being the heavier, will seek the lowest level, and when poured into the mould fills in to form the alveolar ridge of the cast. The lead, retaining only 1-6 part of the zinc, being soft soon batters down under the blows of the swaging mallet and an improperly shaped plate is the result.

Zinc is very readily acted upon by the organic as well as all the mineral acids, and precipitated in the form of a poisonous acid salt. Therefore materials intended for analysis, in cases of supposed poisoning, should never be packed in jars closed with zinc caps. Chloride of zinc, formed from the action of hydrochloric acid on the metal zinc, has been employed as an obtunder of sensitive dentine, but this is a dangerous as well as a painful practice, as the chloride has a strong affinity for albumen and gelatine, and although it does not penetrate far into the dentine, if the cavity is quite deep it is liable to encroach upon, irritate and cause the pulp to die.

LEAD. (Pb.)

Lead is readily oxidized at the ordinary temperature when exposed to the atmosphere, and by the combined action of air and water, it is converted into a hydrate. Pure water has no action upon the metal but if nitrogenized organic matters, nitrates or nitrites, be present in the water, the lead is somewhat dissolved, owing to the formation of basic salts. In case of carbon-dioxide, sulphates, or carbonates being present the action is retarded on account of their tendency to form insoluble coatings and thus protect the lead. If lead or zinc be overheated they thicken up into an earthy-looking mass or semi-oxidized metal. This may be purified by covering with pulverized charcoal, or a little beeswax if preferable, which tends to deoxidize the metal by extracting the oxygen with liberation of carbonic acid gas.

ALUMINUM. (Al.)

This metal does not oxidize in the air and is not acted upon by sulphur compounds; neither by nitric acid, even at the boiling

point, but hydrochloric acid attacks it readily forming aluminum chloride with liberation of hydrogen. The alkaline salts also attack the metal. Owing to these reactions, as a general thing, it will not last many years when worn as a base plate in the mouth, for there we find these different elements in varying quantities. Aluminum fuses at a red heat that is very difficult to discern, so great care should be exercised in annealing. A reliable method is that of wiping over the metal a little sweet oil, which, when exposed to the flame of a Bunsen burner or gas jet, turns black, but is soon burned off when the plate should be immediately removed from the flame, as it requires but little additional heat to melt it. On account of the low fusing point no solder has yet been obtained that will successfully resist the action of the fluids of the mouth. Mercury which amalgamates with nearly all of the other metals will not unite with aluminum. Corundum and emery are nearly pure alumina. Alum is a double salt of aluminum and potassium. Magitot, from laboratory experiments, concludes that "alum readily attacks and breaks down the tooth enamel but does not harm the cementum or dentine." Therefore care should be exercised in using mouth washes, gargles, and tooth powders containing even a small per cent. of alum.

GOLD. (Au.)

Gold, silver, and lead when cupelled together volatilize, gold in the form of foil will also volatilize when a strong electric current is passed through it. Pure gold may be prepared from alloyed gold, by dissolving the metal in *aqua regia*, expelling the excess of acid by evaporation, diluting well with water, filtering, to get rid of the silver chloride, and adding a solution of ferrous sulphate which precipitates the gold in a dark purple powder. This is thoroughly washed on the filter, dried and fused with a small quantity of borax, in a clay crucible, the walls of which have been covered with a saturated solution of borax and dried. This prevents the gold adhering to the vessel. Should oxalic acid be employed in place of ferrous sulphate, and the solution heated, the gold is precipitated in the form known as "sponge gold." Should *aqua regia* not act readily on the alloyed gold, you will discover that a coating of silver chloride has been formed which prevents the action of the acid. The metal should then be washed and ammonia applied, which dissolves the silver chloride. After the ammonia has been washed off and the metal replaced in the

acid, renewed action will take place. If such metals as lead, tin, or antimony get mixed with gold, even though in exceedingly small quantities, the gold is rendered brittle, and as lead is used so much in the laboratory, care should be exercised that they are kept apart and especially that the machine rolls are kept thoroughly free from lead. Should gold become brittle through these agencies it can be restored by fusing, and while molten, adding a small quantity of corrosive sublimate, which changes the foreign metals into volatilizable chlorides; or, by melting with a mixture of borax and potassium nitrate, the lead or foreign metals will be oxidized and dissolved.

THE ENGINE BURNISHERS AND BAND MATRIX IN FILLING WITH AMALGAM.

BY H. G. HUSTED, OBERLIN, OHIO.

ONE of the most prominent causes of failure in amalgam fillings, is improper packing of the material into the cavity. If this is not done properly, the filling will be more or less porous, frail at the edge, and easily broken; especially is this the case where the filling is very large, and more mercury than is necessary is used in preparing the amalgam.

For several months I have been using smooth engine burnishers in the place of the ordinary amalgam pluggers, and find that I am able to produce a filling that is more dense, has stronger edges, and is more satisfactory in every way.

In the case of large proximal cavities, where a considerable portion of the tooth must be cut away, I find that the band matrix is quite indispensable, as the burnishers can be used to the best advantage where there are either natural or artificial walls to work against. A simple and inexpensive band which will answer every purpose, can be made and adjusted in two or three minutes. From a sheet of very thin tin cut a strip from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch wide and $1\frac{1}{2}$ inches long, bend it in the form of the letter U, put it around the tooth close to the gum, and bring the ends together with a pair of flat nose pliers, this will give the size of the tooth. Remove the band, trim off the projecting ends, and solder over a spirit lamp, using a very small piece of ordinary

tinner's solder. Adjust the band to the tooth carrying it well below the cavity. If the band is properly formed and adjusted in a case where the cavity extends below the gum, it will effectually shut off all leakage of blood and saliva. The rubber dam should now be adjusted, and the cavity being properly prepared, we are ready to insert the filling.

In preparing the amalgam, use only sufficient mercury to allow of its being collected together into a mass, after being thoroughly ground in a mortar. Being provided with suitable engine burnishers, proceed to insert the filling, using small quantities at a time, and condensing thoroughly, especially near the edges. The rotary motion packs the particles of amalgam together and forces out all excess of mercury, and with less hard pressure than can be accomplished with hand instruments. When the cavity is nearly full, use amalgam that is very dry, or even the dry powder itself; this will give a very hard surface. To remove the band, first separate it at the point where it is soldered, thus avoiding any danger of breaking the filling.

LABORATORY INQUIRIES ANSWERED.

BY L. P. HASKELL, D.D.S., CHICAGO.

PLASTER CASTS, ETC.

The following questions are asked and answered:

1. *What changes do you make in the plaster cast?* Except in rare cases where the entire palate is yielding, (then fit the plate to the entire palate,) I raise the plate over the hard palate with a thin film of wax, for the reason that the membrane yields elsewhere, especially the alveolar ridge, to some extent in the course of time, and unless this is done, the plate will bear hard, irritate, and rock. This is a better plan than *scraping* from the impression, as in the *cast* you have a better chance to see how and where to make the change. Then if the posterior portion between the center and corners is quite soft, scrape away slightly, extending forward perhaps $\frac{1}{2}$ inch, *leaving about $\frac{1}{4}$ inch in the center*, where it is hard, undisturbed.

2. *Do you ever use "air chambers?"* I never use "air chambers" in full sets, and only occasionally in partial sets; there is no need of them, in fact they often defeat their object.

3. *What conditions are necessary to ensure sufficient adhesion, and is a very strong adhesion a necessity?* To ensure sufficient adhesion, the plate needs to fit the entire surface, (except the hard palate,) and so come in close contact with the membrane. Not near as much suction is needed, as many seem to imagine. My only test is to press the plate firmly to its place, and even then, if that fails in a rigid mouth, I give myself no concern for I know that when the work is completed, and properly adjusted to the lower teeth, there will be no trouble with the adhesion. The principal point to guard against is to see that the plate sets snug enough to exclude the air at the rear, and this is seen by wetting the palatal surface of the plate, before placing it in the mouth, and then *pumping* with the finger watch if air bubbles escape; also be sure the plate does not press *too hard* so as to irritate and throw off, which is a very common fault. Always carry the plate as high as it can be worn, especially over the cuspidati and the maxillary prominence.

4. *What changes are needed where the process in front is all gone, as is often the case?* No changes are needed where the process is all gone. The thickened, movable membrane has been pressed into a position that has become normal; just leave it there.

5. *In such cases, what must be done to ensure the best results?* To ensure the best results in such cases, everything depends upon the *articulation*; be sure the front teeth do not touch, and also leave a margin to prevent it in the future, *except* in cases where the lower jaw is very prominent then the upper teeth should close inside the lower, and if they touch it will be an aid. The pressure should be not only back of the anterior teeth, but the bicuspid should be set well *inside*, so that the outer cusps are inside the lower outer cusps. And *never* in these, or in any other cases, allow a lower wisdom tooth, which has fallen forward so as to present an inclined plane, to meet the upper teeth, as it only produces mischief by crowding the plate forward.

6. *What changes are needed in lower casts?* Very little change is needed in lower casts. If the ridge is thin and flexible, scrape from the impression so as to enlarge and thus throw the pressure more upon the sides. Extend the plate a short distance only on the curve at the condyle; too many plates are made too long.

7. *On what does their success depend?* The success of a lower denture depends upon an accurate impression; not being too wide, or extending too low down upon the outer or inner sides. The plate should be so trimmed that the lips can be raised with the fingers, and the tongue raised to the palate, without raising the plate. The articulation must be exact, and the posterior teeth not *too long* so as to crowd the plate into the gums.

Correspondence.

"I charge you that this epistle be read."

A CHANGE OF FRONT.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—In the current (February) number of your journal I find a communication signed J. Stedman Converse, which is liable to give a false impression. I have not the honor of an acquaintance with the author and in fact never heard of him before, but upon consulting the city directory I find that he is not a dentist but a "physician" and I take it for granted that he knows no more about dentistry than the large majority of even the most cultured of his class.

That *Dentistry* is a distinct profession goes almost without saying. The minds of our readers are constantly befogged by writers who use the terms "dental surgery" and "dentistry" as synonymous. Oral surgery, dental surgery and dental prosthesis are each departments of dentistry, and this latter term covers a much broader field and means much more than "dental surgery," which is only a specialty of it.

No one questions but dental surgery is a department of general surgery, nor is any one so ignorant as not to know that dentistry is a department of the great healing art. Nevertheless in its unique practice, its separate educational institutions, separate organizations, associations, literature and *degree*, it is no more a specialty *in* medicine than is medicine a specialty in dentistry. There are more than twenty colleges in the United States turning out in the aggregate, every year, hundreds of men whom they certify are capable of practicing the profession of dentistry, and not five

per cent. of the whole number could practice medicine to save their lives.

Only by some abstract theory or sentimental idea of motherhood can this class of men be regarded as specialists in medicine; practically they are not.

There is an unseemly itching on the part of some dentists to have the organized medical profession recognize them as specialists, but in the present condition of all *our* organizations, the medical fraternity cannot do this without stultifying themselves, and committing the most glaring absurdities.

Not until the degree of D.D.S. is recognized as entitling the holder to membership in *medical* associations, can dentistry be recognized by the medical profession as a specialty in any other sense than an acknowledgment that it is a scientific department of the healing art.

While all these colleges exist (and the number is yearly increasing), dentistry will stand as a distinct profession. Nor is it at all likely that the medical organization of the future will admit the holder of that degree to a full equality with the possessor of the medical degree. If dentists are anxious to be regarded as physicians, there is but one way, and that is to pass the curriculum of a medical college. They cannot sneak into the medical profession by learning how to practice dentistry never so skillfully, and acquiring the title of "doctor" by courtesy, as many have, and therefore set up as "specialists in medicine." These men bring disgrace upon dentistry rather than dignifying it; as skilled *dentists* they are known and respected but beyond that they are pretenders and no better than charlatans.

Now the question of the dental profession sustaining a section in the forthcoming Medical Congress, is only one of policy, and under the conditions which *now* exist, it is the wisest thing we can do,—to go every man of us, who is a reputable dentist, and swell the aggregate to overwhelming proportions.

There was a time only a few weeks since when we who are dentists only, were given to understand that the section would be made up of M.D.'s, and such dentists who were lucky enough to secure a special invitation. This arrangement put all those without that degree, at a kind of disadvantage. To have to wait for an *invitation* from those who were not their superiors to enter a grand congress, carried a degree of humiliation with it and natu-

rally they would feel somewhat "out of place." But within these recent weeks, the management of that section has made an entire change of front, and now I am informed *that any reputable dentist who applies and pays his entrance fee, will be admitted to full equality.* By all means let us go. If a *medical* congress can afford it we certainly can. But we shall never reach our full fruition until we have a dental congress, made up of dentists and for dentists.

In the agitation of that subject a few weeks since, it was never conceived by any one that it could be brought about before 1888 or 1889, nor that a congress in either of those years could be construed into hostility to a section in a medical congress, which would have accomplished its work and been disbanded from one to two years before.

NORMAN W. KINGSLEY.

NEW YORK CITY.

LABORATORY HINTS.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—It is just as important for the palatine surface of a plate to be smooth and polished, coming in such intimate contact, as it does, with the delicate mucous membrane, as the other surface. I believe, with many others, that with perfect cleanliness you rarely meet with a sore or scalded mouth, and with a rough, uneven surface, it is impossible to have perfect cleanliness. I have tried many ways to accomplish this object, but have found the following method the best and simplest, all things considered: Always add the plaster, (a little at a time, stirring constantly,) to the water, not the water to the plaster. After getting the impression, (always taken in plaster,) give it a coat of shellac varnish, not too thin, and while it is drying run a ring of sheet wax around it, an inch or so deep. After the varnish is perfectly dry, instead of oiling, sprinkle powdered French chalk freely over the impression, then with a soft brush—I use a badger's-hair shaving brush—rub every part of the impression thoroughly, finally shaking out the surplus; then mix the plaster pretty thin, and pour, tapping the cup gently until the plaster commences to set. After it has hardened and you have cut away the impression, you will find the cast to have a perfectly glazed surface, free from air bubbles. Now proceed as usual and when the wax is removed

dust the cast with chalk the same as you did the impression. You will find after the plate is vulcanized, all that will be necessary to have a beautifully polished palatine surface, will be a short use of the brush wheel.

A word as to broken blocks. I am positive the only cause that ever broke a block is pressure—either too much rubber was used, the flask closed too suddenly, or at too low a temperature; or lastly, the most frequent of all causes, neglect to remove all wax from the surface of the blocks. If any wax is left on the face of a block, there will be a space where the wax is melted out, and when the rubber is placed in behind it, the block is almost sure to give way. Have the plaster set perfectly to the face of the teeth, and you will have no more broken blocks, at least that has been my experience. I saw in one of the journals, not long ago, where some one tried to explain that it was “the sudden pouring of hot water on the blocks that did the damage,” citing as an example, that “his wife never poured hot water on glassware without expecting it to break.” I will say to this gentleman, if he will watch his wife the next time she washes dishes he will find that she pours the hottest of water on porcelain with the greatest impunity, and if there are any glass teeth in the market I have failed to see them.

INDIANAPOLIS, IND.

C. C. E.

Compilations.

“Gather up the Fragments.”

THE PRINCIPLES AND THE PROGRESS OF MODERN THERAPEUTICS.

BY WILLIAM H. DRAPER, M.D., NEW YORK.

It is always a profitable exercise to review from time to time the advances that are made in the science of disease, and the corresponding progress in the art of healing, and to note especially how nearly the art is itself approaching the dignity and stability of a science. It must be acknowledged that, if such a review is made at short intervals, we are sure to find that, through the imperfection of the science of disease, the ancient traditions still

control in a large degree the art of therapeutics, and that much of our medication still has no other justification than the routine sacrificed by long usage, and no other basis than speculation as to the relation of cause and effect. At the same time, the discoveries of each succeeding year, in all the branches of knowledge which are tributary to pathology, are modifying therapeutic methods; they are exploding many of our fondest delusions, and slowly but surely giving precision to the art of preventing and curing disease.

It has been truly said that "art, even of the lowest and most inarticulate kind, is always tending toward a scientific form, to the discovery and assertion of itself; and science, if it deserves the name, is never absolutely barren, but goes down into some form of human action, becomes an art; the two run into each other." This is eminently true of the science and art of medicine. The art had its birth long before the science came into being; the science had its origin and still draws its inspiration from the art. The distinction, therefore, between the science and the art of medicine is an arbitrary one. The science is daily becoming more practical and the art more scientific, but it is still a melancholy fact that the scientific practitioner of the present is often a very poor doctor, and the pure artsman, as Plato calls him, may be a very successful one.

Broussais remarked that "the real physician is the one who cures; the observation which does not teach the art of healing is not that of a physician, it is that of a naturalist." There is a wholesome truth in this observation which it would be well for the faculties of our colleges, as well as for those who consider themselves eminently scientific practitioners, to take to heart, and it is this: That neither anatomy nor physiology nor a knowledge of the causes and effects and natural history of disease, neither the botany nor the chemistry of medicaments, nor even skill in diagnosis, can make the possessor of them a master of the art of healing. They constitute the essential equipment of a physician; they do not make him a physician. They define the objects of his craft, and fix the limits of its possibilities. He would, to be sure, be helpless without them, but he is worse than helpless with them until he has learned how to use them, how to construct out of them the special art which enables him to cure disease.

To a certain extent, the tendency of pure pathology has been

to diminish faith and create skepticism in the possibilities of therapeutics. It is a common reproach to the teachers of the theory and practice of medicine, that they spend much time and pains in describing the lesions and the natural history of diseases, and dismiss the principles and means of cure with few and distrustful words. The reason of this is that pathology only furnishes the object to therapeutics—it does not properly embrace or direct it. The pathologist is essentially a naturalist. He investigates the causes and effects of disease, its onset, progress, and terminations. There is nothing, necessarily, in all this that suggests the means of cure. But since pathology has cleared the way, since it has defined and differentiated the many effects of similar causes, and the many causes of similar effects, the progress of the therapeutical art shows that the narrow limits within which a simple knowledge of pathology would confine the possibilities and the means of cure are being constantly enlarged by the independent experimental study of the action of the remedial agents.

It is far from my intention, by these remarks, to underestimate the importance of pathology to the practical physician; I desire simply to state the logical relation of pathology to the healing art, and to insist that, though pathology is essentially practical in its application, the art of therapeutics is itself becoming more and more scientific. If I were asked to name one of the important contributions which pathology has made to therapeutics, I should say that it is what is known as the expectant treatment of disease; and while I believe that this has been productive of grave errors, and has retarded in many ways the progress of the art of healing, I am willing to admit that it has exposed many fallacies, dispelled many delusions, spared much needless suffering, and saved many lives.

Profoundly as the progress of therapeutics has been influenced by the advances in the science of disease, it is most important to bear in mind that the art of healing owes its greatest achievements to inductive methods no less than those of science. There is nothing, for example, in the pathology of small-pox which could possibly have led to the discovery that the modification of the disease produced by its transmission through the cow would so change the virus as to produce in the human subject a new disease, which would protect against the disease from which it is derived. Marvellous as the fruits of this discovery have

already been in controlling the scourge which determined it, the principle which it established has proved to have a wider application and more pregnant consequences than the wildest imagination could have conceived when Jenner propounded it.

The discovery of anæsthesia really had its birth in the brain of a man who was not a physician. Sir Humphry Davy, in his observations on nitrous oxide, affirmed that as this "gas in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage during surgical operations." Nearly fifty years afterwards the principle suggested in this discovery of the anæsthetic properties of nitrous oxide found its application in the use of the ethereal derivations of alcohol to paralyze temporarily the cerebro-spinal functions during surgical operations. But time would fail me were I to attempt to adduce all the examples which might be given to show how the art of healing grows through independent experimental methods of its own, and how pathology really, for the most part, furnishes the objects to therapeutics, and, so to speak, gives the terms of the problems which observation and experiment have to solve.

To apprehend clearly the principles upon which modern progress in therapeutics has been made, it is necessary to observe, first, that the aims of therapeutic effort are daily becoming more clearly defined. Many diseases which were formerly the object of assault by drugs, to which siege was regularly laid by a process of sapping and mining in which the patient often perished, have now been relegated to the realm of surgery. The surgical, in the sense of local, management of many of the tegumentary diseases, of the mucous membranes as well as of the skin, of cystitis, pyelitis, empyema, and even peritonitis, furnishes conspicuous examples of the substitution of local treatment for treatment by drugs. So large, indeed, is the number of diseases now treated by surgical procedures which were formerly subjected to general and more or less useless medication, that the domain of surgery is rapidly encroaching upon what has always been regarded as the special field of medicine. It is a curious commentary on the history of the medical art that what was once considered the *opprobrium medicorum* should have become the most advanced and scientific branch of the art of healing, for truly the stone which the builders refused has become the headstone in the corner. When we reflect that the lessons of antiseptic surgery have

furnished the greatest impetus to the investigations of the germ-origin of disease and promise to revolutionize the principles of its prevention and cure, we can hardly over-estimate the achievements, or exaggerate the possibilities, of the surgical art.

Another fact which is especially worthy of attention in estimating the changes which are taking place in therapeutics is, that the revelations in the etiology of disease and the more exact methods of diagnosis have exploded many of the old traditions, and only those survive which are substantiated by rational principles or by uniform success. Poly-pharmacy is following its victims to the grave, and the test of a sure aim and intelligent purpose is slowly but surely taking the place of random shots at imaginary foes.

In reviewing the many lines along which the art of therapeutics has advanced with the science of disease, we must be impressed especially with the greater objective precision of treatment in the management, first, of disorders of the nervous system; secondly, of the maladies due to parasitism; and thirdly, of the functional derangement of the processes or nutrition.

The discoveries in neuro-physiology have enabled the practical physician to differentiate the focal, systemic, and peripheral lesions of the nervous system, and to distinguish these from the functional affections. * * * * *

It is hardly necessary to allude to the success which now attends the treatment of peripheral lesions of the nervous system, both by surgical and medical procedures. In this division of nervous diseases the diagnosis of the sensory, motor, and trophic disturbances which proceed from the different forms of neuritis possess the highest interest, and has proved most important in the determination of rational methods of treatment.

The management of the neuroses, which, for lack of more precise knowledge, are called functional, are of reflex origin, or presumably dependent upon variations in vascular supply, has reached a degree of precision and a measure of success which is most encouraging. Those which affect the intellectual and emotional centres, and which are now happily absolved from purely psychological theories of their origin. such as hysteria hypochondriasis, melancholia, and the acute forms of dementia, have been brought within the range of rational treatment in a way to affect most favorably, in many cases, their prognosis and cure. * *

It is interesting to note in the modern therapeutics of organic and functional nervous affections how largely it is based upon the direct local action of medicines upon special centres of innervation. The action of the bromides upon the medulla, of atropia and physostigma upon the respiratory centre, of digitalis and kindred drugs upon the cardiac ganglia, of cocaine and the nitrites upon the vasco-motor system, are familiar examples of the direct local influence of drugs upon the different specialized springs of nervous energy. The progress which has been made in cardiovascular dynamics promises even greater results in the future than it has already attained, and is likely to give a precision to the application of remedial agents which will confer on medicine something of the exact scientific quality which belongs to surgery.

There is another department of neuro-therapeutics to which the limits of this discourse will permit only a brief allusion; I refer to the improved methods of treatment which have been brought about through our daily increasing knowledge of what are called reflex neuroses.

The application of the rational principle of all therapeutics, "*Causa sublata, effectus tollitur*," is often most successfully illustrated in the cure of many sensory motor derangements by the removal of the remote peripheral irritations which determine them. This recognition of the reflex origin of many morbid conditions has been so fruitful of valuable suggestions to therapeutics that, in our department at least, it is to be feared enthusiasm has carried its votaries beyond the bounds of warrantable induction. I allude to the surgical procedures which have been invented for the relief of the sensory motor, and even psychic disturbances which the gynecologists affirm proceed from diseases of the sexual apparatus. It must be acknowledged that in the mind of candid observers there is more or less skepticism as to the correctness of the purely gynecological view of the origin of these neuroses, and consequently more or less opposition to the fantastic operations resorted to for their relief. * * * *

With this very incomplete sketch of the way in which modern scientific researches in the diseases of the nervous system have affected modern therapeutics, let us briefly consider the revolution which has taken place in the art of healing through the discoveries in the field of parasitism. Scarcely more than a quarter of a century ago our knowledge of parasitic diseases was confined

to the morbid effects of the entozoa, the epizoa, and the epiphyta. Within this period most of the so-called zymotic diseases, and some which were not regarded as zymotic, have been traced to microzymes. The immediate and inevitable effects of these discoveries was to demonstrate the futility of much of the traditional treatment of zymotic affections, and to direct the attention of art to the possibilities of destroying or antagonizing these subtle and pestilent foes of the human organism. It is not possible for me to consider the present aspect of the germ theory in its relation to the many diseases to which it has been applied. It is sufficient to remark that it is continually invading the domain of pathology in new and unexpected directions. Not only all septic processes, but even inflammation itself; not only eruptive fevers, including syphilis, but even malarial and rheumatic fevers; not only phthisis and pneumonia, but even common colds; not only diphtheria, but ulcerative endocarditis; not only leprosy, but even the malignant infection tumors—all of these general and local affections have been more or less reasonably suspected of hiding the secret of their origin in a specific germ. Admitting that the microbic etiology of many diseases is as yet only a theory, it has surely given a new and definite aim to therapeutics, through which it has achieved in certain directions marvellous results. It has revolutionized the art of surgery by converting what were formerly regarded as most formidable operations into safe and simple procedures. It may be said to have conferred an almost dangerous facility upon certain surgical undertakings, and to have tempted the modern surgeon to enter upon paths which the angelic prudence of his predecessors made them fear to tread.

The problems, however, which the germ theory presents to the physician are more complicated and difficult to solve than those which it offers to the surgeon. Thus far it seems to afford promise of great results only in the direction of prophylaxis. To the sanitarian it is the revelation of a new gospel. It gives a pith to the principle of cleanliness, which commands a respect that has never been secured by its supposed contiguity to godliness. It has so formulated the protective measures against the spreading of infection in hospitals and private houses that it must in this way largely diminish the ravages of disease. But when we come to the object which the germ theory holds out to art, to antagonize the morbid processes which germs set up in the living

body, either by destroying the germs or by neutralizing their effects, we are met by what seem to be insuperable difficulties.

If we consider the action of the remedies which have long been in common use in the treatment of what are now regarded as germ diseases, we find little to justify the explanation of their action on the theory that they are germ destroyers, and yet there is something suggestive in the effect of quinine in malarial fever, of mercury in syphilis, and of salacin in rheumatism, if this should prove to be a germ disease. * * *

The investigation of the constitutional conditions which establish vulnerability to germ diseases seems to be a wellnigh hopeless problem; but when we reflect upon the daily observation of the variations in intensity in the infection fevers, in syphilis, and in the malignant neoplasms, if these should prove to be of germ origin, we cannot resist the hope that a scientific study of the causes which tend to produce a congenial soil for the development of the parasites which determine these diseases may yet lead to discoveries which will place other means of prophylaxis within our control.

The improvements which have been effected in the therapeutics of the disorders of nutrition through the scientific study of the processes of digestion are less conspicuous, perhaps, though they are really of wider practical beneficence, than those which have resulted from the discoveries in neuro-pathology and parasitism.

When we reflect what a large proportion of human ailments and the daily discomforts of life result directly or indirectly from vices of digestion, it is not surprising that the medical art should have been quick to appropriate the practical suggestions which scientific research has indicated in the physiology of nutrition. There is no good reason, perhaps, to suppose that the digestive organs of man are better adapted to the conversion of a greater variety of foods than those of the lower animals, but it is certain that his natural instincts, as well as his acquired habits, incline him to a larger variety in his diet. As a consequence he is doomed to more complicated disorders of his digestive processes, and from his higher nervous organization he suffers for them in very special and varied directions.

The investigations which have been made as to the nutritious value of all kinds of food-stuffs, of the relations of food to growth

and the evolution of different forms of vital energy, and especially the revelations of artificial digestion, have given an interest and importance to the subject of dietetics in the work of the practical physician which it would be impossible to exaggerate.

The improvement in the dietic management of acute febrile diseases which have been effected through the introduction of partially digested foods, has without doubt, contributed very largely to their more successful treatment. The necessity imposed upon the physician, of "mending the watch while it is going," renders the question of feeding the sick one of primary importance. And there is no more useful improvement in practical medicine than the discovery of successful means of maintaining nutrition under the disturbing influence of disease. * * *

In this brief and very imperfect sketch of the progress of modern therapeutics I have endeavored to give expression to two primary ideas involved in the principles upon which progress has been made: One is that the art of healing is to-day as empirical an art as it has ever been, but that with the advancing knowledge of disease the empiricism of therapeutics has become more scientific—it seeks more and more to assert itself, to establish its efforts upon a sure basis of reason. The other is that in modern therapeutics the application of remedial measures is made to operate more definitely upon the determining causes of disease. In the three special directions of diseases of the nervous system, of those due to parasitism, and of the disorders of nutrition I think that these two ideas are forcibly and successfully illustrated. The principles are of course not new, but they have hitherto had only limited and imperfect sway in the field of pure medicine. Now that an impulse has been given to them by the discoveries in the physiology of the nervous system and in organic chemistry, and especially by the experimental method of studying the action of remedial agents, they have become the basis of rational therapeutics and the foundation of our hope in its future growth. These principles constitute the basis of the great advances that have been made in many of the special departments of medical practice, and whatever objections may be made to specialism in medicine, there can be no question that it has given an impetus to the art of healing, which the science of disease alone never could have afforded.—*The Medical Record*.

REMARKS ON THE PATHOLOGY OF SHOCK.

THE term shock is applied to the nervous force that transmits the effect of injury from the periphery to nerve centres, producing death, or more or less collapse, by this disturbance of the centres. Originally this term was employed, without any definite idea as to its pathology, to any case of collapse or sudden death, following injury or mental emotion, without any discoverable lesion. But lately it has been associated with the nervous system, and it is by no means of the increase of knowledge of physiology, and greater extension of experimental inquiries, that we have been enabled to arrive, with some certainty, at the explanation of the pathology of shock.

Shock, though, as a unit, cannot be defined. The causes of shock, or rather the changes which produce the condition, are so varied that it will be necessary to classify it according to the special pathology bringing about the condition under each head. Consequently, it is proposed to bring before you the pathology of the different kinds of shock, some of which are based on experimental and demonstrable facts; others the views of some authorities as to the explanation of the manner in which the changes to produce this condition may take place; also, it will be necessary to mention physiological facts bearing on this subject, which is the sudden or rapid arrest of normal physiological functions.

Taking the most frequent and important causes of shock, we shall first speak of—

Reflex Inhibition of the Heart.—A reflex act is a transmission of an impulse along an afferent or sensory nerve to a nervous centre, which is then reflected from the centre along an efferent or motor nerve.

If this nervous centre preside over motion in the part to which the efferent nerve is distributed, it will cause an increase of motion; if the centre preside over *inhibition*, it will cause an arrest or decreased motion in the part to which the efferent nerve is distributed. In the same way the heart may be quickened, stopped, or lessened in force by the stimulation of a sensory nerve.

It has been shown, by microscopic and physiological investigations, that automatic centres are in the walls of the heart.

made up of ganglionic cells, like all other origins of nerve force. These centres furnish the stimulus for the rythmical contraction of the heart, only requiring a continuous blood supply for nutrition to develop the necessary energy.

This intrinsic nerve mechanism is under the immediate control of a group of cells situated in the medulla oblongata called the cardiac centre. This centre can arrest or decrease the action of the heart through fibres which pass along the pneumogastric, or quicken the heart's action being much the more powerful.

It has been proved by experiment that if the pneumogastric or medulla oblongata be stimulated, arrest or diminution of the heart's action follows, the amount depending on the degree of stimulation. But stimulation or irritation of the pneumogastric is not the only way in which the heart's action can be arrested. Many other parts of the nervous system can produce the same effect by a reflex influence.

It is well known to surgeons that wounds of the abdomen are apt to be followed by shock more than any other regions. In this case it is due to a reflex on the heart.

Brown-Sequard proved this by his experiments on lower animals. He found that pinching the semilunar ganglion of the abdominal sympathetic, stops the action, or diminishes the force of the heart. He found, also, that if the pneumogastric or spinal cord were divided, it had no influence on the heart, thus showing the manner in which the injury to the ganglion produced the effect—viz., that the irritation passed along the spinal cord to the medulla, which was thence reflected along the pneumogastric to the heart. This explains what surgeons have seen to occur in men—that is, cases of death from a blow on the belly. It also shows why collapse follows acute tympanitis. But irritation of the sensitive nerves of the skin and mucous membrane produce the same effect. It has been found that even a shower-bath affects the pulse, sometimes considerably, while many persons cannot immerse their bodies in cold water without fainting. Drinking ice-water in those not accustomed to it has produced death. It is well known that one danger we cannot guard against while administering chloroform, is the sudden arrest of the heart's action. Here the irritation of the sensitive nerves of the nostrils passes to the medulla, and is reflected through the vagus to the ganglions of the heart, stopping their activity. Carbonic-acid gas, or other irritative substances, may produce the same effect.

Also mental emotions, such as terror, have been known to produce death. Pain has proved fatal, though in the majority of cases by causing syncope while the patient is in a state of collapse. "But still more singular, patients have been known to die at the moment of transition from intense agony to perfect ease," as Sir Ashley Cooper pointed out. Extreme excitement, or deep mental pre-occupation, has the power of postponing the occurrence of shock, perhaps in the same way that the will, or the violent irritation of a sensory nerve, can for a time suspend perception. Another mental condition exerting a peculiar influence on shock is that of intense expectation. It seems that this latter mental condition might assist in explaining those deaths which follow the most trivial operation, while greater accidents may have had no effect. It seems here to follow the breaking off of a condition of extreme mental tension."

Vaso-Motor Paralysis.—It must not be understood that this inhibitory action on the heart always causes death; for it may vary in intensity, from the slightest interference of the force and action to complete arrest. Neither does this disturbance of the heart's action alone generally produce the condition known as shock; for associated with it generally is vaso motor paralysis.

It has been shown that the blood-vessels—veins as well as arteries—are under a nervous control so closely resembling that already described, that they may be influenced by the same stimuli as those which affect the heart. This might have been presumed from the close resemblance of the blood-vessels to the heart, in their primitive development. But the vaso-motor system is not automatic like the heart, nor is it distinct from the central nervous system, the vaso-motor centre being situated in the medulla, with a prolongation down the cord.

These centres are directly connected with the muscular elements of the blood vessels, by means of the vaso-motor; two kinds may emanate; one increasing the action of the contractile element, causing vasal dilation. The vaso-motor centre in the medulla oblongata is in relation and closely connected with the cardiac centre. So that an impulse passing along an efferent or sensory nerve to the cardiac centre, producing a lessening or arrest of the heart's action, by radiation reaches the vaso-motor centre; thence reflected along the vaso-motor nerves, producing dilation of the blood-vessels—abdominal vessels especially. This was proved by Goltz's remarkable experiment; and as experiments

made by different physiologists do not vary, they have thrown much light upon what was formerly a conjecture.

Systematic Asphyxia.—But it is claimed that inhibition of the heart and vaso-motor paralysis cannot account for all the symptoms of shock, and that it is due to a nervous inhibition of the gaseous interchange which normally goes on between the blood in the capillaries and surrounding tissues, the condition called systematic asphyxia. There seems to be ground for this; for the symptoms of shock are not identical with those of hæmorrhage, under which circumstances they would probably be. And although dilation of the abdominal vessels leading to passive congestion has been noticed, as in ovariectomy, it does not reach, according to post-mortem records, that extreme degree to account for the severity of the symptoms. Besides, the abdominal vessels, veins, arteries and capillaries are not of sufficient capacity to hold quite sixteen per cent. of the total amount of blood. Moreover, injuries of the cervical spinal cord are not invariably followed by instant death. Although the heart is very much interfered with, and there is vaso-motor paralysis throughout the whole body.

In this system asphyxia, according to Brown-Sequard, the venous blood becomes like arterial blood—deep red, rich in oxygen, and poor in carbonic acid gas.

Pulmonary asphyxia differs from this, not only in the condition of the blood, but in the absence of convulsions, over-filling the right heart, and the greater duration of irritability of the nervous and muscular system.

Systemic asphyxia, it is claimed, can be the sole cause of shock. Any kind of injury to the nervous system—such as stimulation of the skin and mucous membrane, can produce this inhibition; especially it is said to be the case with burns and scalds, where the area involved is extensive, although the depth be insignificant.

The mechanism through which it is brought about is supposed in this way: The irritation is transmitted along a sensory nerve, producing inhibition of the trophic centres, thereby arresting the chemico-vital changes between the blood and tissues, which is dependent on a trophic influence that passes along the efferent, or motor nerves. In short, then, shock is an example of a reflex inhibition generally affecting all the functions of the ner-

vous system, and not limited to the blood-vessels and heart only; and by the majority of the profession this view is accepted as the most plausible explanation of its pathology.

Among the different theories that should be mentioned is one brought forward by Brown-Sequard, in which he attributes shock to anæmia of the cerebral centres through vasal spasm. He claims that shock is often produced by disturbance of the vaso-motor centres. These being excited by the external injury, cause spasm of the arterioles, especially those at the base of the brain, thereby producing depression of the the centres by want of proper nutrition.

An objection has been raised against this view, on the ground that a functional spasm could not remain long enough to produce such a condition. But it has been shown by Dr. Otis that a functional spasm will remain permanent—as long as the exciting cause continues to act. He reports a case of spasmodic stricture in the membranous portion of the urethra lasting thirty years, caused by irritation of an organic stricture in the penile portion. Moreover, paralysis due to phimosis is a cause of reflex irritation, causing anæmia of the spinal cord through vasal spasm, the paralysis lasting as long as the irritation is kept up. So it seems as if he had some grounds on which to base his opinions, even though opposed by such authorities as Anstie, Jones, and Mitchell.

Anstie believes that shock may be produced by the propagation of shock paralysis of the injured nerves to the cerebral centres. He claims that the state produced in the nerve centres by the peripheral influence is one of paresis from shock depression, and that from this sensory centre this state can communicate itself to motor and vaso-motor centres through commissural fibres. Neither does he believe in a special inhibitory portion of the nervous system. He thinks that the impression produced may be stimulating, if the peripheral irritation be mild, or paralyzing if it be strong.

Weir Mitchell claims that shock may be produced by the state of exhaustion of the centres following over excitement—being due chiefly to impressions made on the centre by the injury, and partly to mental emotion accompanying every physical injury. He imagines that powerful external irritation exhausts the irritability of the nerves, then that of the centres, thus induc-

ing a state of entire unimpressibility analogous to that which exists in nerves and nerve centres, which are included in a strong, constant current of electricity. For it is well known that nerve tissue treated in this way loses in irritability and rapidity of conduction.—McGUIRE, *Va. Medical Monthly*.

THE PHOSPHATES IN THERAPEUTICS.

LOGEAIT writes in the *Archives de Pharmacie*, September 5, 1886, the following concerning the value of phosphates in the treatment of diseases :

The medicinal worth of the phosphates of lime has hitherto been singularly overrated. The triple phosphate of lime, the bi-phosphate and mono-phosphate (acid phosphate), as well as the other principal preparations, such as the chlorohydrophosphate, lacto- and citro-phosphates, are gradually disappearing from the field of practice, their places being occupied with the phosphates of potassium and sodium. Very recent observations have yielded the fact that the action of the phosphates of lime is exceedingly uncertain and doubtful, as they cannot be absorbed in the economy. No doubt, says Logeait, the soluble phosphates of lime remain dissolved as long as they are in the stomach, and the insoluble preparations become dissolved by the action of the gastric juice ; but as soon as they have passed into the duodenum, the alkaline bile precipitates them at once, and renders them insoluble again. Hence from the greater part of the entire intestinal tract they are as totally inert matters, and are finally rejected with the rectal discharges.

It is different, however, with the phosphates of potassium and sodium, which are equally soluble in acid, alkaline, and neutral menstrea ; they remain dissolved during their entire passage through the digestive channels, are consequently resorbable.

The absorption of phosphates of lime is by no means indispensable to the explanation of the formation of osseous tissue. We can logically presume that the soluble salts of lime alone are absorbed, which precipitate neither in an acid nor an alkaline medium.

These salts meet, in the deeper channels of the economy, the phosphates of sodium and potassium, arriving with the same conditions of solubility, and form thereby double decomposition phosphate of lime.—*Therapeutic Gazette*.

THE INUTILITY OF LIME PHOSPHATES.

THE person who shows that a particular drug is of no value in therapeutics does a service to science, much more, perhaps than by introducing a new remedy. M. E. Logeais, in the *Bulletin de Therapeutique*, aims to prove that the phosphates, and particularly the lime salts, are useless drugs. This seems at first very much like flying in the face of a wise Providence, established pharmaceutical interests, and sound therapeutical principles. The use of the phosphates in rachitis, defective bone nutrition, and all forms of functional nerve troubles is very common, and has received the support of eminent authorities. M. Logeais, however, quotes the experiments of Lehmann, Heiden, and Veiske, who claim to have demonstrated that the phosphates of lime added to the food are not absorbed, but are excreted in their entirety in the dejections. Dujardin-Beaumetz is quoted as saying that this salt has no action whatever, while neither the phosphates of lime nor phosphoric acid is absorbed. To this may be added the statement of Nothnagel and Rossbach: "Never, as far as we know, has a case of rickets been cured by the administration of lime." "Everywhere there is a lack of trustworthy and extensive observations," as to its utility. All the forms of lime salts used in practice are, according to M. Logeais, precipitated and made insoluble as soon as they pass the stomach. They are, therefore, taken up, if at all, in the stomach alone, and the amount absorbed here is very small. The practical conclusion that lime salts of all kinds are therapeutically useless, is one which deserves the attention of the many physicians who are constantly prescribing them in various conditions.—*N. Y. Medical Record*.

THE TREATMENT OF EXCESSIVE SALIVATION DURING PREGNANCY.

OWING to the ordinary insignificance of this ailment, few medical works contain a lengthened account of it. Dr. Y. Schramm, however, had the opportunity, in the autumn of 1885, of observing a very severe case, and he has published some notes of it in a

Scandinavian journal. Numerous remedies were employed with very little effect, for at first he imagined the salivation to be due to chronic mercurialization; but, later, he discovered that the patient was pregnant, and that pregnancy was the cause of the condition. Neither the iodide of potassium recommended by Le Maestre nor Von Ebstein's atropine treatment had any effect. Galvanizing the sympathetic also exercised only a slight effect. Galvanizing the cervical sympathetic was resorted to with no perceptible result. Dr. Schramm then tried subcutaneous injections of pilocarpine (as recommended by Von Labbe and Daveyeux). After seven injections of pilocarpine chloride, 0.01 gramme ($\frac{1.5}{100}$ gr.) per dose, there was a diminution of the daily quantity of saliva as well as improvement in the general health of the patient. The excessive secretions, however, could not be entirely stopped. Bromide of potassium was tried, which acted quickly in the reduction of the flow; and Dr. Schramm prefers bromide of potassium to all other drugs, as it is harmless during pregnancy, and yet exercises a distinct effect on the salivary nerves, and on the origin of the facial nerve in the medulla oblongata, and also on the secretory filaments of the sympathetic. Professor Fleck made a chemical examination of the saliva, and found that ptyalin was absent.—*Brit. Med. Journal.*

SHARPENING HYPODERMIC NEEDLES.

A FRUITFUL cause of abscesses in hypodermic medication is dull and rusty needles. The rust may be avoided by wiping the needles from time to time with rouge or crocus cloth, purchaseable from any cutlery or hardware establishment. The finest emery cloth is too coarse for this use. Every physician ought to be able to sharpen his needles himself. The best hone for the purpose is that known as the Hot Springs or Washita razor hone. Thrust the needle with the wire in it, through a bit of soft velvet cork long enough to come within a quarter of an inch of the commencement of the bevel point of the instrument. The cork will serve as a handle for the fingers and at the same time holds the needle stiff and taut. It is also a guide in preserving the proper bevel of the point. A few light rubs upon the hone will put a keen point on the dullest needle.—*St. Louis Medical and Surgical Journal.*

A SIMPLE SUBSTITUTE FOR HARE-LIP PINS.

DR. CHARLES F. MASON, U.S.A., of Fort Huachuca, Ariz. Ter., reports the following case as an illustration of how much can be accomplished with simple means: "A. B——, a robust female child of three months, was brought to me by the mother, with the request that I should operate upon its hare-lip at once, as she was compelled to go to the country and could not return for some time. The fissure was single, on the left side, and extended up just within the margin of the nostril. Having no hare-lip pins at hand, and not liking the wire suture for this purpose, I began to look around for a substitute. I soon found in a dry-goods store a 'toilet pin,' which I thought would answer very well. This pin is one and five-eighths inches in length, has a sharp point, and a glass bead top, which much facilitates its introduction, and is of the finest tempered English steel. The ordinary single flap operation was performed and two pins introduced, fine catgut sutures being used between the pins, and, as far as possible, along the mucous edges of the incision. The wound was then dusted with iodoform and painted with collodion, and two narrow strips of isinglass plaster carried across the cheeks over the incision, so as to relax the tissues as much as possible. The child was allowed to nurse in the usual way. The pins were withdrawn on the fourth day without difficulty, and were found to be as smooth as upon introduction, and almost as bright. The wound had healed throughout by first intention, and there was only slight irritation where the pins had been, and this, I believe, could have been almost entirely avoided by withdrawing them one day earlier."

ZONULAR CATARACT AND DENTAL MALFORMATIONS.

DR. JOHN B. STORY cites nine cases, in addition to those collected by Horner, in which zonular cataract was associated with "rachitic" (not Hutchinson) teeth in children, who presented, generally, a history of infantile convulsions, cranial deformities and defects in intelligence, all of which abnormalities he traced

to the action of rickets. Horner's rachitic teeth are thus described: "They are, as a rule, thicker and coarser than the normal; the nearly formed incisor appears somewhat cubical and shapeless, though the shape can, in many cases, closely approximate the normal. The enamel, instead of gradually thinning away on the neck of the tooth, terminates abruptly in a swollen ridge. The delicate horizontal furrows to which the enamel owes its satin-like appearance becomes so enlarged as to even be visible to the naked eye, and sometimes, especially toward the cutting edge, a horizontal row of round holes marks the position of one of these excavated grooves. The body of the tooth terminates in a convex border at the cutting edge. The junction of the labial and lingual surfaces of the enamel runs as an irregular, zigzag line over the surface of the tooth. Sometimes the enamel is quite absent in grooves, the floor being formed by the discolored dentine.—*Ophthalmic Review*.

IODINE IN THE TREATMENT OF GLANDULAR SWELLINGS.

IN an address on "Practical Therapeutics," read at a recent meeting of the Medical Section of the Academy in Ireland (*Dublin Jour. Med. Sci.*, Dec. 1886), Dr. James Little says: "In the United Kingdom thousands of pounds are annually expended in the purchase of iodine, which, after solution in spirit, is applied to enlarged glands in the neck and elsewhere in the body to promote their disappearance. The impetus to the employment of the iodine was given by Lugol fifty years ago, and given so strongly that it has reached our days apparently with undiminished force, and, quite recently, rather acrimonious discussions have taken place as to the merit of rendering the application colorless. Yet its value is a matter on which every practitioner should be able easily to form his own judgment, and any one who does so independently will, I think, soon arrive at the conclusion that if the solution employed, whether it be colored or colorless, is a weak one, such as the pharmacopœial tincture, no effect whatever is produced; whereas if it be a strong one, such as the pharmacopœial liniment, the result is that the large glands get more enlarged, and if the application is continued an abscess forms in the surrounding cellular tissue."—*N. Y. Med. Journal*.

OUR PORTRAITS.

WE have in preparation an excellent likeness, from a photograph, of that pioneer educator in dentistry, Dr. Chapin A. Harris, with a sketch of his life, which will appear in the April number.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

IN the reduction of a dislocation of the lower jaw, the patient should be seated on a low stool before the operator. In this way the surgeon gets sufficient leverage, standing above the patient, and the reduction of the dislocation is simplified.

In wounds of the face the best stitch to make is the horse hair. Unless the wound is of considerable size, no form of drainage is necessary. The best dressing is the pad of a salicylic cotton wool or corrosive wool fixed in position with flexible collodion.—*Edinburg Med. Journal.*

DR. R. M. HODGES says:—Dirty finger nails may communicate a fatal poison, through the trivial operations of surgery.

England with her population of some 35,000,000 people, has only about 5,000 practicing dentists.

DR. BARRETT in the *Independent Practitioner* says: "It may be considered as established, that without the presence of bacteria there can be no abscess or suppuration."

MR. S. J. HUTCHINSON states that, to avoid the dark lines in joints of gum sections, put the case into chlorate of lime for six or eight hours and it will thoroughly clean out the black lines which disfigure gum blocks.

To obtain a "third hand" a simple method is to take the mouth mirror, and fasten to it a small piece of wire that can be pierced into a cork. Place the cork between the teeth of the patient fixing the mirror at any required angle.

If in selecting artificial teeth you find the natural ones too dark, or coated with tartar and cannot match them, wipe over the artificial teeth a little fluoric acid. This gives them just the roughness which makes them undistinguishable from the nat-

ural ones. The fluoric acid should be kept in a gutta percha bottle.—*London Dental Record*.

MR. CUNNINGHAM, at a recent meeting of the Great Britain Odontological Society, stated his method of lining vulcanite plates with gold, as follows:—When the ordinary vulcanite piece was so invested in the flask that the flask was open, the unpacked rubber was to be separated from the model and a thin layer of filings or precipitated gold was first spread finely between the model and vulcanite, then upon either one, or both a thin layer of calico was placed to prevent a further squeezing of the rubber. The process seemed to add only a few minutes' labor to the ordinary process of making a rubber piece. A surface properly prepared in this way could be increased by the electro process to any thickness.—*London Dental Record*.

DR. TRUMAN says that amalgam will contract or expand according as it is used. If used with too much mercury, it will shrink as well as dissolve; but if employed dry, or in such a condition that it will work well, it will not shrink, and will be less liable to dissolve. A great deal of its behavior is due to the manner in which it is manipulated. He is sometimes afraid to use it very dry in frail teeth, on account of its expansiveness when employed in that condition.

DR. G. R. HUTCHINSON has been successful in making loose plates fit by employing the following method:—Take a sheet of base plate wax, warm it and place evenly on the plate. Immerse in warm water until both are warm. Take the impression by letting the patient close the jaws firmly, then remove, trim off the surplus wax on the edges, and flask in plaster. Heat, wash off all the wax, replace with gum, using Welch's rubber cement freely, and vulcanize. For lower plates it is specially good.—*Items of Interest*.

DR. W. H. TAGGART says: In the treatment of pulpless teeth, we need the very best and toughest of little broaches, and none that I have ever used are equal to those made from piano wire. They have sufficient spring to keep them from kinking, or breaking off in the roots. My way is to take the smooth broach, lay it on the bench and draw file it with a No. 1 separating file. This makes little grooves lengthwise on the broach, and it will then hold the finest shred of cotton without any danger of its coming off, and those who have never tried these broaches will be surprised at the small canals they can follow.

DR. HERBERT M. KING, in an answer to Dr. N. W. Kingsley's address: "Dentistry not a specialty in medicine," concludes his paper thus:—"If dentistry is to be pursued as a trade, by all means separate it from medicine, and waste no time in studying that science. But if it is to be regarded in a higher light and practiced accordingly, it cannot properly be considered as other than a specialty of that grand division of science, the object of which is the cure of disease and the preservation of health.—*From Independent Practitioner.*

DR. J. SOLIS COHEN has noticed a curious perversion of the temperature sense of the tongue and oral cavity, caused by strong solutions of cocaine. While still capable of appreciating heat, the patient cannot recognize cold, and iced water seems of blood heat, or even warmer.—*The Polyclinic.*

DR. ALTON HOWARD THOMPSON says: The external treatment of the teeth for the purpose of hardening the enamel, is a field which has been but little explored. What we require is a remedy which will augment the density of the enamel by external application, and, from a physiological stand point, it is not asking too much of the science of the day to furnish it.

Nausea after ether or chloroform, may generally be controlled by turning the patient on his left side.—*Ex.*

DR. J. H. BEBEE says: If saliva gets into a joint before vulcanizing, there will be discoloration, as the organic matter contained in it will char and blacken under heat. Also if wax gets on the ends of the sections of teeth grind it off, for hot wax is a solvent of rubber, and will lead the vulcanite into the joint. Another suggestion, to those using dry heat in packing, is, to be careful and not heat the case too hot, for the penalty will be porous rubber. If the rubber is once heated so that it is porous, it will always remain so.—*Odontographic Journal.*

DR. GARRETT NEWKIRK in recommending eugenol as a dressing for pulp canals says: "it penetrates, saturates, mummifies and stays."

DR. D. R. JENNINGS' method of treating alveolar abscess is with a solution of gutta percha and chloroform, made to the consistency of cream, as follows: "Clean the pulp chamber, root canal, and abscess cavity thoroughly—exhausting all the pus from the sack at and around the roots—wash with alcohol and water equal parts, or with peroxide of hydrogen; dry as well as you can. Then with one of Donaldson's little bristles, made for

cleansing root canals, with cotton fibres wrapped around it, dip into the gutta percha solution and introduce into the pulp chamber and root or roots, as the case may be, using the cotton wrapped broach as a piston to pump the solution through the root canal into the cavity of the abscess, continuing to force the solution through the root until it makes its appearance at the sinus opening. If it is found coming through too freely, lay the finger on the opening, thus causing the solution to be forced into any and every place around the root where the sac is; in this manner strangulating it and preventing the gathering of lymph to be subsequently decomposed into pus. The abscess is thus destroyed. The gutta percha, being an inert substance, becomes encysted, and nature thus assisted goes on and closes up the sinus; and you will have no more fear than if there had never been an abscess."—*Dental Register*.

A Dental Practitioner asks: "Will you be so kind as to inform me of the best known obtundent for sensitive dentine?"

There are at present several highly recommended obtundents, but no one is absolutely certain in its effects at all times and in all cases. Where an obtundent may be very successful in one case the result may be the reverse in the next. Very often a change in obtundents brings about the desired result so it is well to have several in readiness that, if one fails, another may prove satisfactory.

A pellet of cotton dipped first into Robinson's Remedy then into a solution of cocaine, and the mixture applied for several minutes to the sensitive dentine, is often effective.

Squibb's extract of cannabis indica is highly recommended.

Chloroform and aconite is used by many.

DR. MORGAN uses aqua ammonia.

The new Herbst obtundent is prepared as follows: To one-half drachm C. P. sulphuric acid add as much hydrochlorate of cocaine as the acid will dissolve, then add sulphuric ether to supersaturation.

DR. HARLAN recommends "ten grains of the alkaloid (crystals) of cocaine and ninety minims of sulphuric ether," claiming that it makes a perfect solution and will act with more certainty than the Herbst obtundent, and is not self-limiting.—[Ed.]

Societies.

"Wherewith one may edify another."

MEETINGS.

Ohio Dental College Association, Cincinnati, Tuesday, March 1, 1887.

Mississippi Valley Association of Dental Surgeons, Cincinnati, Wednesday, March 2, 1887.

Michigan State Dental Association, Ann Arbor, Tuesday, March 29, 1887.

Alabama Dental Association, Tuscaloosa, Tuesday, April 5, 1887.

Northern Ohio Dental Association, Cleveland, Tuesday, May 10, 1887.

Mad River Valley Dental Society, Dayton, Ohio, Tuesday, May 17, 1887.

Illinois State Dental Society, Jacksonville, Tuesday, May 10, 1887.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Pennsylvania State Dental Society, Glen Summit, (near Wilkesbarre, Pa.) Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September, 1887.

MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

THE following is a partial list of the papers to be read at the meeting, March 2, 1887:

History of the Mississippi Valley Association of Dental Surgeons, by E. G. Betty, D.D.S.

Nutrition by C. M. Wright, D.D.S., Cincinnati.

Irregularities of the Teeth—A Case in Practice by Geo. W. Keely, D.D.S., Oxford, O.

New Remedies by A. W. Harlan, M.D., D.D.S., Chicago.

Ways and Means in Dentistry by W. Storer How, Philadelphia.

There will be other papers, also a demonstration of Dr. J. Rollo Knapp's nitrous oxide blow-pipe, and methods in crown and bridge-work.

The JOURNAL will have a special report of the meeting in the next issue.

THE SOUTHERN ILLINOIS DENTAL SOCIETY.

CHANGE OF DATE OF MEETING.

THE society will convene at Duquoin, Tuesday, April 12th, instead of the first Tuesday as announced. Those expecting to attend will please note the change. By order of the President and Executive Committee.

G. W. ENTSINGER, *Sec'y*,
Carbondale, Illinois.

ALABAMA DENTAL ASSOCIATION,

WILL hold the annual meeting in Tuscaloosa, commencing Tuesday, April 5th, 1887, and continue four days. All dentists are cordially invited to attend the meeting. The State Board of Dental Examiners will meet at the same time and place.

T. M. ALLEN, D.D.S., *Secretary*, Eufaula, Ala.

R. N. DUBOIS, D.D.S., *President*, Greensboro, Ala.

PENNSYLVANIA STATE DENTAL SOCIETY.

CORRECTION.

The February number of OHIO JOURNAL OF DENTAL SCIENCE, under the heading Societies—Meetings, gives the next place of meeting of the Pennsylvania State Dental Society as Cresson Springs, etc.

This is an error; the next meeting will be held at Glen Summit, (near Wilkesbarre,) Lucerne Co., Pa.

ALTOONA, PA.

WM. B. MILLER, *Recording Sec'y.*

INTERNATIONAL DENTAL CONGRESS.

A CONFERENCE of dentists who were in attendance at the eighteenth anniversary of the First District Dental Society of New York, was called at the Sturtevant House, to consider the feasibility and advisability of taking steps for the calling of an International Dental Congress at some future date. Thirty-five dentists were in attendance; among whom were Drs. Northrop, Dwinelle, Littig, Walker, Perry, Carr, Kingsley and Mills, of New York City; Keech, Coyle, Winder and Waters, of Baltimore; Hunt, of Washington; Darby, Truman and Peirce, of Philadelphia; Brophy and Harlan, of Chicago; Shumway, of Massachusetts; A. P. Dickinson, of Iowa City; Watkins, Meeker, Brown, Levy and others, of New Jersey; Bartholomew, of Springfield, Mass., and others whose names escaped the secretary. Dr. W. H. Dwinelle was elected Chairman, and Dr. Geo. A. Mills, Secretary.

DR. KINGSLEY opened the discussion by some remarks in which he considered the advisability of taking steps for organizing a meeting to be called an International Dental Congress, and he offered the following resolution:

Resolved, That in the opinion of the conference, the interests of the dental profession throughout the world will be advanced by an International Dental Congress.

A discussion then followed, in which Drs. Northrop, Truman, Brophy, Hunt, Winder, Keech, Kingsley and the Chairman took part. There was no difference of opinion as to the advisability of holding such a congress at some future time, and the years 1888, 1889 and 1891 were severally suggested and considered. The year 1890 was out of the question because of another international medical congress to be held in that year. As to the time, no decision was reached. The resolution was carried unanimously. A second resolution was offered, viz:

Resolved, That the following named gentlemen constitute a committee of temporary organization, whose duty it shall be to make such a plan for a permanent organization as shall in their estimation best call out universal support.

This was also discussed and carried. The committee named is Drs. Dwinelle, Northrop, Walker, Kingsley, Winder, Hunt, Coyle, Brophy, Levy, Meeker, Southworth, Frank French, Truman, Peirce and Flagg.

A third resolution was offered and carried, viz :

Resolved, That this committee be empowered to fill vacancies and enlarge its numbers at their discretion.

This conference was amicable in a large sense, yet there was a free interchange of opinion. While all did not think alike in all things, wise measures were strongly advocated, so that it should not appear that there was any disposition to place obstructions in the way of any movement that sought the best good of all.

The meeting adjourned subject to the call of the chair.

GEO. A. MILLS, *Secretary of the Conference*.

NINTH INTERNATIONAL MEDICAL CONGRESS.

AT WASHINGTON, D. C., SEPT. 5, 1887.

PRESIDENT.—N. S. Davis, M.D., LL.D.

SECRETARY GENERAL.—Jno. B. Hamilton, M.D., of U. S. A.

SECTION 17—DENTAL AND ORAL SURGERY.

PRESIDENT.—Dr. J. Taft.

VICE-PRESIDENTS.—Dr. W. W. Allport, 242 Wabash Avenue, Chicago, Illinois; Dr. F. Abbott, 22 W. 40th St., New York; Dr. W. C. Barrett, 208 Franklin St., Buffalo, New York; Dr. S. W. Dennis, San Francisco, California; Dr. C. L. Ford, Ann Arbor, Michigan; Dr. W. H. Morgan, Nashville, Tennessee; Dr. H. J. McKellops, 2630 Washington Avenue, St. Louis, Missouri; Dr. A. T. Metcalf, Kalamazoo, Michigan; Dr. A. L. Northrop, 57 W. 49th St., New York City; Dr. A. O. Rawls, Lexington, Ky.; Dr. Joseph Richardson, Terre Haute, Ind.; Dr. C. W. Spalding, St. Louis, Missouri; Dr. L. D. Shepard, 100 Boylston St., Boston, Massachusetts; Dr. James Truman, 3249 Chestnut St., Philadelphia, Pa.; Dr. W. W. H. Thackston, Farmville, Virginia; Dr. V. E. Turner, Raleigh, N. Carolina.

FOREIGN VICE-PRESIDENTS.—Prof. Dr. F. Busch, Berlin, Germany; Dr. W. Herbst, Bremen, Germany; Dr. L. N. Hollander, Halle, Germany; Dr. Andrieu, 2 Rue de la paix, Paris, France; Dr. E. Magitot, Paris, France; Dr. V. Haderup, Copenhagen, Denmark; Dr. T. H. Harding, London, England; Dr. W. Geo. Beers, Montreal, Canada.

SECRETARIES.—Dr. E. A. Bogue, 29 East 20th St., New York City; Dr. F. H. Rehwinkel, Chillicothe, Ohio; Dr. E. Brasseur, 6 Rue Mogador, Paris, France; Dr. Elof Foerberg, Stockholm; Dr. Julius Parreidt, Leipzig, Germany.

COUNCIL.—Dr. R. R. Andrews, Cambridge, Mass.; Dr. C. W. F. Bödecker, New York City; Dr. C. A. Brackett, Newport, R. I.; Dr. B. H. Catching, Atlanta, Georgia; Dr. George H. Chance, Portland, Oregon; Dr. E. S. Chisholm, Tuscaloosa, Alabama; Dr. C. C. Chittenden, Madison, Wisconsin; Dr. D. M. Clapp, Boston, Mass.; Dr. W. R. Clifton, Waco, Texas; Dr. J. S. Cassidy, Covington, Ky.; Dr. K. B. Davis, Springfield, Illinois; Dr. A. M. Dudley, Salem, Mass.; Dr. M. W. Foster, Baltimore, Maryland; Dr. J. G. Friedrichs, New Orleans, La.; Dr. C. E. Francis, New York; Dr. Geo. L. Field, Detroit, Michigan; Dr. F. G. S. Gorgas, Baltimore, Maryland; Dr. P. G. C. Hunt, Indianapolis, Indiana; Dr. A. O. Hunt, Iowa City, Iowa; Dr. R. Findley Hunt, Washington, D. C.; Dr. George W. Keely, Oxford, Ohio; Dr. Edward C. Kirk, 1602 Arch St., Philadelphia; Dr. James Lewis, Burlington, Vermont; Dr. James McManus, Hartford, Conn.; Dr. W. N. Morrison, St. Louis, Missouri; Dr. J. Hall Moore, Richmond, Virginia; Dr. T. T. Moore, Columbia, S. C.; Dr. Edgar Palmer, LaCrosse, Wis.; Dr. A. J. Plomteaux, San Francisco, Cal.; Dr. S. B. Palmer, Syracuse, New York; Dr. W. A. Spalding, Minneapolis, Minn.; Dr. C. S. Stockton, Newark, N. J.; Dr. A. H. Thompson, Topeka, Kansas; Dr. W. C. Wardlaw, Augusta, Georgia; Dr. J. W. White, Philadelphia, Pa.

FINANCE COMMITTEE OF THIS SECTION.—Dr. J. W. White, Treasurer, Cor. 12th and Chestnut Sts., Philadelphia, Pa.; Dr. A. M. Dudley, Secretary, Salem, Massachusetts; Dr. Edgar Palmer, LaCrosse, Wisconsin; Dr. H. J. McKellops, 2630 Washington Ave., St. Louis, Missouri; Dr. L. D. Shepard, 100 Boylston St., Boston, Massachusetts; Dr. C. H. Winkler, Augusta, Georgia; Dr. W. W. Allport, 242 Wabash Ave., Chicago, Illinois; Dr. W. W. Walker, 67 West 9th St., New York.

RECEPTION COMMITTEE OF THIS SECTION.—Dr. A. L. Northrop, 57 W. 49th St., New York City; Dr. H. J. McKellops, 2630 Washington Ave., St. Louis, Missouri; Dr. A. M. Dudley, Salem, Massachusetts; Dr. William Carr, 35 W. 46th St., New York City; Dr. L. D. Shepard, 100 Boylston St., Boston, Massachusetts; Dr. E. Maynard, Washington, D. C.; Dr. D. McFarlan, Washington, D. C.; Dr. James McManus, Hartford, Connecticut; Dr. W. W. H. Thackston, Farmville, Virginia; Dr. E. A. Bogue, 29 E. 20th St., New York City; Dr. F. H. Rehwinkel, Chillicothe, Ohio; Dr. C. F. W. Bödecker, 60 E. 58th St., New York City.

Permit the following suggestions. It will be the duty of the Reception Committee to receive and welcome the Foreign Guests and Visitors; and to facilitate their introduction to, and acquaintance with, the members of the Profession in this country, and to promote the social features of the occasion. It is hoped, that, through this Committee, an acquaintance will be effected throughout the entire membership of the Section.

COMMITTEE ON OPERATIVE DENTISTRY AND ORAL SURGERY—CLINICS.—Dr. C. F. W. Bödecker, 60 E. 58th St., New York; Dr. J. A. Watling, Ypsilanti, Michigan; Dr. R. L. Cochran, Burlington, Iowa; Dr. F. Abbott, 22 W. 40th St., New York; Dr. W. C. Wardlaw, Augusta, Ga.; Dr. J. D. Patterson, Kansas City, Mo.

It will be the duty of this Committee to make ample provision for the work of this department, providing all needed facilities, such as chairs, engines and all appliances; to provide patients and subjects for the Clinics; to confer with the operators, learn their needs, and supply them so far as possible.

There will be others added to this Committee as the work may require.

COMMITTEE ON PROSTHETIC DENTISTRY.—Dr. Geo. L. Field, Detroit, Mich.; Dr. H. B. Noble, Washington, D. C.; Dr. A. O. Hunt, Iowa City, Iowa; Dr. John Allen, New York, N. Y.; Dr. T. T. Moore, Columbia, S. C.; Dr. W. N. Morrison, 1337 Washington Ave., St. Louis, Missouri; Dr. R. B. Donaldson, Washington, D. C.

It will be the duty of this Committee to provide facilities for the work of this department, and arrange for its efficient performance; and make such regulations as shall secure the greatest benefit from the demonstrations.

ORGANIZATION.

The following rules and regulations have been adopted by the Ex-Committee, for the guidance of the work of the Congress, and of its sections.

The Congress will consist of such members of the regular medical profession, as shall have registered, and taken out their ticket of admission, and of such other scientific men, as the Executive Committee of the Congress shall deem it desirable to admit.

Books for registration of members, will be ready on and after September 1st, 1887, and on each subsequent day during the session. Any member desiring registration prior to this time, may apply by letter to the Secretary General, and forward his dues with his full address, when a receipt will be returned.

The membership fee, for residents of the United States, will be (10.00) ten dollars; there will be no dues for members from other countries. Each member will be entitled to receive a copy of the transactions of the Congress, when published by the Ex-Committee.

The work of the various sections will be directed, by the President of the section, and the order will be published in a daily programme for each Section.

Brief abstracts of papers to be read in the Sections, shall be forwarded to the Secretaries of the proper Section, on or before April 30th, 1887. These abstracts shall be treated as confidential communications. Papers relating to topics not included in the list of subjects proposed, by the officers of the Sections, may be accepted after April 30th, 1887.

The officers of each Section shall decide as to the acceptance of such proposed communications, and the time for their presentation.

The Ex-Committee cordially invites members of the regular Medical profession, and men eminent in the *Sciences, collateral to Medicine, in all countries*, to participate in person, or by papers, in the work of this great humanitarian assembly.

The attendance of medical students, and others interested in the work of the various Sections, or in the general addresses delivered in Congress, will be permitted on the recommendation of the Secretary General, or the officers of a Section, on their taking out of the registration committee a general ticket of

admission fee, one dollar; such persons cannot take part in the proceedings.

All communications and questions relating to the special business of any Section, must be addressed to the President, or one of the Secretaries of that Section.

OFFICERS OF SECTIONS, AND THEIR DUTIES.

The officers of each Section, including foreigners shall be a President, not less than five Vice Presidents, four Secretaries, (two foreign) and not less than ten, nor more than thirty, members of council.

PRESIDENT.—The president of each Section, shall be its executive officer, who is solely responsible for the efficient work of his Section. He shall nominate all persons for the Ex-Committee for any office connected with his section. He shall select and regulate (by conference where desired, with the other officers of his Section), all papers or questions for discussion and reject only after such conference, such papers or questions, as he may deem inadmissible to the transactions, or for presentation in his Section. He shall preside at, and regulate the business of each meeting of his Section, punctually at the hour named, making an opening address to the Section, if he so desires. He may at any time adjourn the session of the Section, when in his opinion sufficiently long, as when there are too many papers for the day, etc., etc. He shall strictly enforce Rule 8 of the preliminary organization. When a paper is read, or discussion occurs in a foreign language, he shall resign the chair to a foreign officer of the same nationality as the language employed.

VICE-PRESIDENTS.—They shall assist the President in the performance of his duties at each meeting of the Section when requested by him, and shall take their seats on each side of the presiding officer. They shall aid the president in consultation on the value and character of all papers or discussions that are to be presented in the Section or the transactions.

SECRETARIES.—The four Secretaries of Sections shall arrange among themselves, or at the request of the President of the Section, the order of their duties. They shall keep accurate records of the proceedings of each day in their Section, and make such daily report of it to the Congress, as the President of the Section shall direct; the foreign Secretaries acting for their own nation-

alities. At the close of the session they shall present all their Minutes, in good order, to the Secretary General for publication in the Transactions, if so desired by the Executive Committee.

MEMBERS OF COUNCIL.—It is expected that the Members of the Council will aid in every way to make the Sessions efficient and instructive. They will also be expected to advise with the President on any matter pertaining to the work of the Section, and on questions which may arise in connection with the publication, in the transactions of papers read, or discussion had in the Section.

Our Aftermath.

COMMON SENSE IN DENTAL PRACTICE.—Call things by their right names. Have an idea when you speak or write. Express that idea in the shortest and clearest manner. Never lose sight of the idea till it is expressed. Have an end in view when you practice. Be able to state it if asked. Have a reason for every method you employ. Let that reason be one that your intelligent patient can comprehend. Pursue no circuitous modes of practice unless none direct will meet the case. In your investigations, keep before your mind some practical end to be better attained in consequence of your study.—DR. C. A. MARVIN, *The Odontographic Journal*.

HEALTH.—Sir Andrew Clarke, the celebrated English physician, defines health as "that state in which the body is not consciously present to us; the state in which work is easy and duty not overgreat a trial; the state in which it is a joy to see, to think, to feel, and to be."—*Cincinnati Commercial Gazette*.

A LEARNED MAN must write and speak a long time before he can show his learning to the world. A fool can show his ignorance at the first pop.—*New Orleans Picayune*.

WHAT ARE THE DUTIES OF A DENTIST?—Dr. John H. Coyle, of Thomasville, Ga., says, in the *Archives of Dentistry*—

"The arrest of caries by filling or otherwise,
Extracting teeth and controlling hemorrhage,
Regulating teeth,
Treating and filling root canals,
Treating odontalgia,
Prevention and cure of alveolar abscess,
Removal of salivary calculus and cleaning teeth,
Treating diseased gums,
Restoring lost teeth.

The above belongs to the work of the dentist. Anything beyond that belongs to the domain of the physician or the oral surgeon."

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

APRIL 1, 1887.

No. 4.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

TREATMENT OF HARELIP AND CLEFT PALATE— A CASE IN PRACTICE.

BY C. H. HARROUN, M.D., D.D.S., TOLEDO, O.

IN presenting this case in practice for your consideration, I am simply carrying out the wishes of eminent men in our profession who contributed so much to the general interest of the Ohio State Dental Society meeting, in Toledo last October.

The subject of oral deformities is always very interesting and matters not how it presents itself for our consideration. Correcting irregularities of the teeth, changing the shape of the maxillaries, thereby presenting to the beholder a new character in appearance, can never lose its interest to us who labor to bring about these wonderful and pleasing changes.

This part of our program was made very interesting by Dr. Keely, of Oxford, Ohio, and Dr. Talbot, of Chicago, Ill. The very simple manner and comparative ease with which these gentlemen moved teeth back into the arch, or changed the shape of one or both maxillaries into a normal condition, only shows what can be accomplished in any direction when we become interested enough in the case to take hold of it with a will.

It was my pleasure during the discussion of oral deformities, to present for examination photographs of a case in practice which I had but a few days before completed, viz., a very bad case of harelip accompanied with cleft maxillary, hard and soft palate.

The very great contrast between the photographs which were of the same person, separated by years of time, and changed by a surgical operation and a little good prosthetic dentistry, created not a little surprise that so much and such good results could be accomplished.

In order that a full understanding of the case be had, I have requested and received from Dr. Samuel S. Thorn, surgeon, a report of the condition of the patient before the operation was performed, also the history of the operation for closing the defective lips. Previous to operation the patient was presented to me for any advice or suggestions I might make in advance, as to how far our art could be depended upon to aid in the full success of the case, so as to modify if necessary the plan of operation, which was fully explained to me. I advised that the operation proposed by him be fully carried out.

The accompanying cuts are engravings taken from the photographs above mentioned, and will represent the condition of our patient before and after each operation.

Fig. 1 shows you the deformity of the lip and the opening in the maxillary.



FIG. 1.

Fig. 2 the wonderful and pleasing change, science, time and art has produced.



FIG. 2.

I will now give you Dr. Thorn's report :
Harelip complicated.

Minnie C., aged 12 years, American. Parents, middle aged and without disease or deformity. This harelip was attended by fissuration of the hard and soft palate extending to and involving the uvula, together with deflection of the right median incisor, lateral being absent, with anterior projection and oblique twist of the intermaxillary bone. Communication between the mouth and nasal cavity wide and free, the vomer warped over to the left. nose flattened and broad at the base. A most distressing deformity. In its consideration with an operation for its removal in view, notice of the retraction of the left and apparent absence of a considerable portion of the right lip, as well as the osseous and dental deformities, was necessary. The left lip, or side, was free of alveolar attachment, the right adherent but full and soft; speech very much interfered with, both in phonation and articulation. Before any operation was attempted I determined, knowing that you had already had much success in adapting obturators in fissures of the hard palate, to see what help, if any, you could give the patient after an operation by me, provided my success should warrant further effort. Your opinion and advice so com-

forting and valuable were of much benefit toward the successful ending of the case.

Operation.—St. Vincent's Hospital, Toledo.

The patient fully anæsthetized was held in a semi-reclining position, face turned well to one side to promote the escape of blood: By the aid of the deflected incisors the intermaxillary triangular piece was fractured in its line of adhesion to the jaw and palatine plate, then twisted and pressed back to improve its anterior line. This done the teeth were extracted. The right lip next relieved of its alveolar attachments, then two semi-circular incisions were made, one on either side and as near as could be of equal length, having in view the necessity of keeping sufficiently from the edge as to avoid the thinned portion, so as to secure deep thick edges; these vivifying cuts were extended well up into the nostrils to prevent after puckering. The cheeks next liberated from the anterior wall of the upper jaw sufficiently far back and high up as to permit coaptation of the incised edges without any strain of tissue. These and the semi-circular lines of incision, both of the same length, I look upon as essential to success, not alone to aid in maintaining contact, but to avoid the unsightly notch which so often follows these operations. All tissues being free and abundant by reason of this separation from the jaw, the parts were coapted and held in place by means of silver wire sutures and one harelip pin. To further aid in supporting the parts and to improve the appearance of the face as a whole, a large harelip pin was thrust through the nose at the alæ from right to left and the parts drawn together and held, this narrowed very much the nose, improved its shape, supported the parts along the line of attachment or united edges, and helped to elongate and force down the lip thereby making an even full line along its vermilion border. The parts were further supported by plasters, spectacle shaped and sufficiently large to extend back to the ear and well over the cheeks; before attaching the plasters the cheeks were forced well toward the mesial line.

Very truly yours,

66 LAGRANGE STREET.

SAMUEL S. THORN.

Having completed this most important part of our work, we must of necessity rest from our labors until our patient has fully matured as to stature, and realization of her condition, which

will enable us to proceed with the certainty of success, which is now so much desired.

The operation of the surgeon in closing the defective lip is, in a large majority of cases, (judging from those presenting themselves for obturators,) very poorly performed. This should not be the case. To the contrary, much thought should be given, and if possible, a good square lip with full muscular action be the result.

Many failures on our part to enable our patients to articulate well, after they have been supplied with an obturator, in my opinion, is due to this fact, that they have so little use of the upper lip, which has the appearance of being paralyzed, as well as being very much shortened in the centre, thus making it impossible to close the lips in articulating.

Five years have passed since the defective lip was so successfully closed, and our patient now presents herself for the part of the work which shall enable her to appear in public without hindrance. In examining the oral cavity, we discover the fact that an enemy has been busy, nearly all of her teeth are decayed, many of them very badly, also that the anterior teeth are not in proper line to give a pleasing appearance when in conversation. These teeth, the left central, lateral, cuspid, first bicuspid, right cuspid and first bicuspid, we decide to extract, as it will be impossible for us to construct anything to fill the vacancy occasioned by the loss of the right central and laterals caused by the cleft, that will not at once be detected by the casual observer. This being accomplished, we allow the mouth to rest and contract as much as possible, consuming nearly four months time, during which time I proceed to restore the remaining teeth, as well as possible, by filling in most part with gold, using tin in the approximal cavities, near the cervical border. Having accomplished all we can in this direction, I, at the same time have decided of what shape and material the instrument shall be constructed. In order that this shall be as simple as possible, and easily repaired, and at the same time useful for the purpose for which it is constructed. I decide to construct the instrument of hard rubber with gold clasps or bands around the molars to sustain the obturator when in place, the anterior teeth attached forming one piece.

The form I used in this case is that recommended by Dr. Suersen, which was first described, with cuts, in the *Register*,

and is now copied into all works on oral surgery. This form of an obturator operates well in many cases, and in some very much better than any form I can possibly conceive using flexible rubber instead of hard. The whole piece is of hard rubber, very easily repaired, and not likely to get out of order.

We have now finished our labors, with the very gratifying result shown in figure 2. The articulation and general appearance of the person are as perfect as we could wish.

ADDRESS

TO THE MEMBERS OF THE GRADUATING CLASS OF THE OHIO
COLLEGE OF DENTAL SURGERY, MARCH 2, 1887.

BY H. P. LLOYD, ESQ., CINCINNATI, O.

As you pause for an hour on the threshold of an active professional life, let me congratulate you on the satisfactory completion of the prescribed course of study in this honored institution. With equal heartiness I congratulate the learned faculty, the Board of Trustees, and the members of the corporation, on the forty-first commencement of a successful and prosperous college, whose name and fame grows brighter with each succeeding year. Forty years cover a large part, and the most important part of the history of our city, our state and our nation. You may well be proud that the life of this college has been interwoven with so much of that which is grandest and best of our national existence.

I have no special fitness for the pleasant task to which you have called me. I have no special knowledge of the technicalities of dentistry. I have simply suffered and bled in the cause as others have done, and have laid down my molars and my money on the altar of a noble science; "only this and nothing more." Let me therefore, rather stand with you, a student among students, I will drop my Blackstone and my Kent, while you drop Richardson and Taft, and I will merely suggest a few thoughts which may have mutual interest.

In a busy life, the opportunities afforded for serious reflection upon topics outside the range of daily duties are all too few, and you have doubtless already found this true in your student life.

For many months you have been steadily employed in the lecture room and the laboratory, in the operating room and the hospital; each hour has brought its specific duties and the labors of the day have often extended into the night. You have felt no part of the time allotted to preparation for the life work before you, could be wasted without serious detriment. As your professors were able and faithful, you were in honor bound to be painstaking and conscientious. But the days were all full, present duties all engrossing; materia medica and pathology, surgery and physiology, chemistry and metallurgy were very fascinating; you had no time to review the past or to forecast the future.

Now the work of special preparation has ended—the life work is about to commence. One day intervenes. Pause, I pray you, on the threshold of that future to which you have so long and so eagerly turned your eyes and consider for a few minutes what that future shall be. I have no power to cast its horoscope for you, nor can you for each other. Even the light of your own experience will give but feeble aid, for you have lived outside of the great struggles for supremacy, free from the fierce ambitions and the greater contests of maturer years. To-day you stand spectators on the shore—to-morrow your feet will enter the current; another day and you will be in the midst of the surging, restless tide. O, how I long to have you strong, and brave and true, that you may be nothing less than “heroes in the strife.”

First of all, let me suggest that you learn to estimate at its true value the dignity of the profession you have chosen. Many avenues of usefulness were open to you; after careful deliberation you have selected this. It was no hap-hazard whim which led you into the profession of dentistry, it was deliberate choice. Let no idle whim take you out of it, or lead you to underrate its importance. It offers to you an admirable opportunity to earn an honorable livelihood, but if you have no higher motive in life than merely to earn your bread and butter, and have chosen this as the easiest way, you would degrade your profession to the level of a trade, and are unworthy to walk in its nobler paths. Nay more, just so surely as you are unworthy in your aims, just so surely will you be unable to win the honors of the profession, and to pluck the prizes which might otherwise be within your reach.

Science is an imperious mistress. In all departments she

rewards the diligent and turns her back upon the slothful. Who are they who have written their names high up on the rolls of honor in the dental profession? Who are they who during the present century have elevated the business of dentistry from a mere trade followed by ignorant charlatans, first to the position of adjunct to the medical practice, and later to the rank and dignity it now enjoys, as a separate learned profession? There can be but one answer. They are those who felt within themselves that they were called to a noble mission, who regarded dentistry as both a science and an art, a field for the exercise of the best skill of the brain and the hands, who studied diligently and persistently, who experimented carefully and steadily, and who, laboring with singleness of purpose to relieve human suffering on the one hand, and on the other, to extend the domain of dental science. They have prized their privileges and their opportunities. They have honored their profession, and it has honored them.

Second. If you can gain this conception of your profession, you can afford to be patient in your work. Patience is a God-like trait. Nature is full of it, alike in her subtlest and in her grandest processes. So must it be with you. There must be patient labor day after day, persistent study week after week, faithful devotion year after year. The first years in your profession may be years of waiting. No man succeeds in high endeavor who works not for the future more than for the present. There may be industry, there may be energy, there must also be patience, if the golden future is to yield to you a golden fruition.

Did you ever try to picture to your minds the noble face of Franklin as he stood day after day, night after night, seeking to win the electric spark from heaven, sending his little kite on its strange mission to the skies, and standing below with unwavering patience until he caught the flashing fire which crowned him greater than Prometheus, and made him in the domain of science a king forever?

In imagination can you not see an Agazziz patiently studying the rocks, working with brain and hands, with pick and hammer, until at last the stony hearts relented, and revealed the geologic secrets of the ages, and all the subtle mysteries of subterranean structures?

With these, and with hundreds of others, there was the

persevering industry, the patient waiting for the great result. Did not the achievement justify the industry? Was not the result worth the long waiting?

But you tell me that I am drawing pen pictures from the past; that we live under different conditions, when the universal demand is for haste, for rapidity of execution. There is force in the objection, I confess. In this age, it *is* hard to wait for anything. We hurry and rush, we strive and push. We cannot wait for a boat to reach its landing, for a train to reach its station. We must stand on the front platform, and be ready to jump at the first possible moment. Boys want to be young men, young men to be managers, servants to be proprietors, students to be masters, and all to be rich in a day or a year.

Men are restless under restraints, rebellious against constituted authority, restless if required to perform steady labor, envious of those more fortunate than themselves, eager for a change, eager for imaginary freedom, eager for socialism, eager for anarchy. Was there ever an age when deliberate thought, calm reflection and the old-fashioned grace of patience were more needed? Was there ever an age when these factors were more certain to secure success than now? Go watch Professor Bell in his working room and see how slowly and surely he wrought out the mechanism of the telephone. There was no rush or bustle then. That came later. Go peep into Edison's laboratory to-day, as he solves the problems of electricity. You will find no hurry, no confusion, but plenty of earnest, patient toil. That kind of labor has not passed entirely out of style.

In the third place, you must make original investigations in the science of dentistry. You must make a new contribution to the art, or perform an old service in a new and better way.

Dentistry as a science has reference to anatomy and physiology, to pathology and materia medica. Dentistry as an art has reference to chemistry and metallurgy, and to some of the finest forms of mechanism. How wide the range of investigation which is thus opened to you. All the learning of the past, all the wisdom of the present of all races and climes, is at your disposal. Which of you will discover by vivisection or by microscope, by analysis or dissection, all the minute details of structure of the tooth, the gum, the jaw, the specific functions of each and the vital connection of all the parts? Who will make a special study

of that delicate lace-work of nature which we call the system of nerves, and tell us why they produce the acutest form of the suffering of the teeth? Who will draw the line of distinction between nervous tooth-ache and facial neuralgia, telling us where one begins and the other ends, and far better, point out an unerring remedy for both? There are the old life long problems of irregular dentition, imperfect nutrition, and impaired digestion still unsolved. We want to know more about the pathology of the teeth as related to the lungs and other organs; we want better mastication that we may be better nourished. Stronger brains in stronger bodies is the want of the world. What will you do to supply the need?

In the physical life of to-day, there is an enormous waste of the vital forces; such reckless extravagant waste that we constantly hear of cases of nervous prostration and the like.

The world needs an intelligent conservation of force, a conservation of vital force in every human organism, so that the work of mankind can be more efficiently performed. Philosophers have long been busy on the questions of the correlation of forces in physics and dynamics; surely physicians and dentists should solve the problems relating to the conservation of the vital forces in man.

Electricity stands waiting at the doors of your laboratories, wondering why she is not invited to enter. In the daily business of life she is an indispensable ally. A Morse and a Bell have taught her the forms of human speech and she runs to and fro across the continents and the oceans to do our bidding as a faithful servitor. Edison has taught her to chase away the shadows of night, and crime has learned to shun her penetrating gaze. Why may she not with equal potency chase away the shadows of disease and reveal some of the hidden mysteries of our being? Open to her the closed doors of your laboratories, make her a welcome guest, and you may find that you have entertained an angel unawares.

Chemistry has secrets yet untold, and you must woo her till you win them. You can easily give a verbal definition of chemical affinity, but you cannot so easily give a correct dynamic theory of its action, or describe philosophically either its source, its operation or its limitations. You make one mixture of elements and produce merely an aggregation of particles; you make

another, and you have a chemical compound differing in character from any of its elements. These are familiar truths; the why and the wherefor are still undetermined.

Chemistry in its relations to metallurgy in the daily practice of the art of dentistry, challenges a profounder study and a more minute research than it has yet received. The entire subject of the effect of acids and alkalies upon alloys and amalgams, is by no means exhausted; while the art of welding gold and other metals for plate-work and filling should be carried to the highest possible point of perfection.

Oral surgery has made wonderful strides within a few years past. Operations but recently deemed impossible, are now performed almost daily, and no longer excite surprise. But ingenuity has not reached its limits in this direction, and you will here find full scope for the exercise of your best faculties.

A thorough study of all these branches, a high endeavor, joined with an enthusiastic desire to relieve human suffering will carry you to the front rank of your profession. No half-hearted service will avail, but industry and enthusiasm will achieve success.

A few years ago, Dr. W. D. Miller was born in the interior of Ohio. Graduating from school, he pursued the study of dentistry with the fervor and industry of an enthusiastic lover of science. One by one he solved the problems which had so long baffled the dentists and the scientists. He has discovered, named and described several micro-organisms, the most important of which is the organism which causes dental caries. He has crossed the sea to Germany and labored side by side with the great Professor Koch, and with him has made valuable discoveries which tend to confirm the germ theory of disease. He has been recognized by the Imperial Government and been elevated to the honorable position of Professor in the Royal University of Berlin, the only American who has been crowned with such honor. He stands to-day with world-wide renown, the foremost investigator in the department of dental science.

It is well known that American dentists have been most eagerly sought in all the large cities of Europe. Why should not an accomplished dental professor from America fill a chair in every university of Europe?

Now we have reached a point in the consideration of dental

science where the prospect opens more widely still, and where the horizon is boundless. We come to consider for one moment the subject of medical psychology, metaphysics applied to the art of healing. A new world of thought has recently been opened on this subject, a world which you cannot afford to ignore, and into which you will desire to enter. Many experiments have been made and very satisfactory results accomplished. The science is already formulated in regular printed treatises, and you can study and experiment at will. There is room for a thousand earnest explorers. Enough is now known clearly to demonstrate the close connection between psychology and therapeutics, and to show that mind may successfully dominate vital organic matter, not only in the relief of pain but in the eradication of disease. In the year last past, medical psychology has accomplished wonderful results and even if we ridicule the theory we cannot deny the facts. If this be true, you will see that every dental practitioner who has an honorable ambition to excel, must acquaint himself with the subject, and your desire for knowledge will increase with every step of your advancement. Have I succeeded in giving you a little idea of the grand possibilities of intellectual development in the higher walks of your profession?

Let me then, in the fourth place, suggest that there are limitations of science and of investigation which you cannot pass. There are limitations of your physical powers which you cannot trespass upon with impunity. There are limitations on scientific inquiry which no human force and no human ingenuity can surmount.

Ancient alchemy was long busy with the problem of transmuting the baser metals into gold. Grecian mythology could invent the legend of the Golden Fleece, and could invent the hero Jason with his band of Argonauts to go in search of it. But in real life, Grecian, Roman and Egyptian sought in vain for the philosopher's stone. With minutest care the carbon of the diamond has been subjected to the processes of the modern laboratory, and its atomic weight has been ascertained with infinitesimal exactness. But when men have tried to reverse the process, and with acute precision to construct the jewel, they have had carbon in abundance, but no flashing diamond.

Modern chemistry may analyze the component parts of the frame-work of the human organism. With the results of the

analysis before him, the chemist may take proportionate parts of carbonates and phosphates, of sodium and starch, of albumen and gelatine, and form a profile of the human form; but no chemistry or sorcery can cause it to move, no magician's wand can endow it with senses, no philosopher however wise, can breathe into its nostrils the breath of life. The origin of organic life, the hidden power of its structural development, the secret causes of that suspension of organism and of function which we call death, you cannot discover. By what unseen cord the mind is held in the body, how the mind maintains and how it loses its supremacy, by what force the connection is severed, you may not know. Religion may supply what science lacks, and faith may give answer when reason is silent, but physics has reached its limitation. The oldest philosopher whose speculations are recorded, put to all coming generations the pointed inquiry: "Canst thou by searching find out God?" "Canst thou find out the Almighty unto perfection?" Down through the ages, again and again the question has rung from the lips of the prophet; the years have ushered in the centuries, and the centuries with stately tread have marched their solemn round; philosophers and scientists have formulated their theories with all the profundity of earthly wisdom, and have gone to join the innumerable throng, but the inquiry of Job remains, and will forever remain on earth unanswered. With reverent faith we bow our heads, and await the answer in eternity.

A parting word and I have done. In all your busy studies and labors, let me entreat you never to forget the obligations resting upon you as members of society and as citizens of the State. Side by side with you will walk many who have smaller abilities and a lower range of opportunities than you. The great law of reciprocity embodied in the injunction, "Bear ye one another's burdens," should always prevail.

Society maintains you, the State protects you. Be dutiful, be loyal to both. Society to-day is profoundly agitated with questions social, economic and political, which reach to the very foundations of free government.

They occur to your minds so readily that I need not even mention them. You cannot stand aloof and say that by reason of your particular occupation you have nothing to do with such matters. On the contrary they concern every man and you can-

not evade your responsibility. The rapid growth of our great cities, has given the problem of municipal governments an importance which staggers the statesman. Socialism is organizing for an attack upon the very bulwarks of society. The wage-worker comes into the presence of the American people, the great tribunal of public opinion, and states his grievance. You thus constitute a portion of the court which is to hear the evidence and determine the justice of the cause. How will you be able to think and act intelligently, unless you study political history, political economy, and qualify yourselves to judge of these matters?

You must take part in the current daily discussions of your fellow citizens, and help to form the general verdict of public opinion, that public opinion which inevitably rules the nation. Let your ballot be cast as conscientiously as you would read your Bible, and let your influence in the community always be equal to your ability, your education and your opportunity.

Now to the college, farewell! To the future, hail! To honorable employment, welcome! As you sow carefully, may you reap joyfully, and may you each and all be crowned with success and happiness.

MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

FORTY-THIRD ANNUAL MEETING, CINCINNATI, MARCH 2, 3, 4, 1887.

[Discussions reported expressly for the JOURNAL, by L. P. Bethel, D.D.S., Toledo.]

HISTORICAL SKETCH.

AN ADDRESS BY THE PRESIDENT, E. G. BETTY, D.D.S., CINCINNATI.

IT has always seemed proper to me that, some one capable of the task, should undertake the writing of an historical sketch of this, the oldest existing dental society in the world, and I am only sorry that it has not been done by one of those who were instrumental in its organization, for, he would have at his command a memory well stored with rich anecdote which cannot now be extracted from the almost faded minutes in this book before you.

Almost half a century of busy years have passed away since the first gleam of light shed its rays upon the waste of waters, and what was then not much more than a mixture of the callings of the barber and the jeweller, is now become a distinct and noble profession, having for its aim, the conservation and integrity of an important part of the economy, of the noblest work of God.

Since this society was formed, the world, in many ways, has made vast progress in all directions, to instance which and to contrast the then and now, it is sufficient to mention the telegraph, anæsthesia, the cylinder press, and the telephone. In dentistry, the founding of colleges, the building up of a large literature in its several forms, the burring engine, rubber-cloth and cohesive gold, leaving out of the account the part dentistry took in the discovery of anæsthesia.

However, it is not my intention to occupy time with a long preamble, or I might continue in this strain for an indefinite period, rehearsing facts that all are more or less familiar with, so I will proceed at once with our subject, doing the best I can to interpret the records in the minute book.

On page number one, we are confronted with the statement that, "In compliance with a call from the 'Cincinnati Association of Surgeon Dentists,' in connection with other members of the profession in the West, a convention of professional dentists met in Cincinnati on Tuesday, the 13th of August, 1844, at 11 o'clock A. M., in the lecture room of the Medical College of Ohio."

There were present at this meeting the following gentlemen; Joseph Taylor, Maysville, Ky.; J. P. Ulrey, Lawrenceburg, Ind.; A. D. Bigelow, Newark, O.; James Clark, Lebanon, O.; D. P. Hunt, Indianapolis, Ind.; G. D. Teter, Ripley, O.; B. D. Wheeler, Xenia, O.; Wm. B. Ross, Newport, Ky.; F. E. Squire, Madison, Ind.; J. W. Cook, P. Knowlton, Cincinnati, O.; A. Berry, Raymond, Miss.; J. B. Ross, Philadelphia, Pa.; M. Rogers, John Allen, H. Crane, Wm. M. Hunter, W. J. Madeira, Chas. Bonsall, Jas. Taylor, Cincinnati, O.

In addition to these gentlemen who were present in person, there were present by proxy: H. Thompson, Columbus, O.; W. Bashan, Dayton, O.; B. Strickland, Cleveland, O.; S. P. Hullihen, Wheeling, Va.; W. H. Goddard, Louisville, Ky.; Wm. R. Winton, Dayton, Ind. (?); B. B. Brown, St. Louis, Mo.; W. E. Ide, Zanesville, O.

A committee of five was nominated to draft a constitution, Drs. Allen, Cook, Rogers, Bigelow, and Hunt, being the gentlemen chosen. They presented a constitution (which was adopted), preceded by the following preamble, which, by the way, has rarely, if ever, had its sentiment improved upon by any society since organized.

“The undersigned, practical dentists of the Mississippi Valley, deem it expedient to form an association for the purpose of mutual improvement in the science and practice of our profession. Desirous of promoting the exercise of that gentlemanly courtesy which should characterize members of liberal professions in both social and professional intercourse, believing also that by frequent interchange of opinions and observations in practice, by reporting from time to time cases of interest as they occur in individual practice, we may do much to elevate the character and standing of our profession, and make it worthy the confidence of an enlightened public.”

Then follows the Constitution, which, I believe, has been reconstructed, but never definitely acted upon, so that the society to-day is practically working without one, “a consummation devoutly to be wished,” as such an instrument is by some deemed hurtful to the practical working of a scientific body; why, I do not know.

The final organization of the society was completed by the election of officers, as follows:

President, Jesse W. Cook, Cincinnati, O.

First Vice-President, Joseph Taylor, Maysville, Ky.

Third Vice-President, D. P. Hunt, Indianapolis, Ind.

Recording Secretary, W. B. Ross, Newport, Ky.

Corresponding Secretary, James Taylor, Cincinnati, O.

Treasurer, Chas. Bonsall, Cincinnati, O.

Executive Committee, M. Rogers, John Allen, Cincinnati, O.;
F. E. Suire, Madison, Ind.

The first address or essay delivered before the newly organized society was by the honored and never-to-be-forgotten James Taylor, his subject being Medico-Dental Education. The address was, on motion, adopted by the society and ordered filed among its archives, but which, I am sorry to say, has long since disappeared, unless, indeed, it has been preserved by subsequent publication in the *Register*, a point upon which I am uninformed,

though, at this same meeting. Drs. Cook, Rogers, and James Taylor were appointed a "Publishing Committee," probably for the purpose of printing this and an address by Dr. John Allen, on "The History of Dental Science," also read before this meeting.

Thus, we have in those simple records the facts pertaining to the organization of one of the very first societies formed for the purpose of advancing and improving professional knowledge among the practitioners of dentistry, the vast influence of which could not then be computed by the most enthusiastic, but which is now evidenced by the 13,000 practitioners in the United States alone, some twenty dental colleges and universities, half that many more periodicals devoted to its interests, and, better than all, an enlightened and growing public opinion, which rewards the practitioner for the many hard licks he has put in.

The newly-born society continued to grow from year to year, adding to its usefulness and membership, and exercising a harmonizing influence upon the many diverse factors which then constituted the bulk of the profession. For instance, before the completion of the organization, while waiting for a draft of the Constitution to be made, "several communications were then made, relating principally to the malpractice of filling teeth with mineral paste." From this, it would seem that there then existed considerable manipulative ability, and that they were afraid the mineral paste (amalgam?) would lead to a reduction of professional dignity and the size of the fee for performing a legitimate operation. Again, in 1845, Dr. Challen offered the following resolution: "That the discoveries and improvements known to the members of the dental profession are and ought to be considered as the common property of the profession."

In the following year Dr. Wm. B. Ross delivered an address upon the propriety of patenting new remedies and discoveries in the profession. Dr. Edward Taylor then presented a resolution to the effect "That any member of this Society who may patent any instrument or mode of practice may be subject to expulsion from the Society." During the discussion which followed, Dr. James Taylor said: "No letters patent should be thrown around her (science's) pinions. Naught but the dictum of the Great Almighty should be interposed to say 'thus far shalt thou go, and no farther.'" At the same meeting a resolution was adopted

providing "that a committee of three be appointed by the Chair to investigate and report whether Dr. Allen, of our association, is the author of a dental improvement for which he has obtained a patent."

These instances I give to show how high the standard of professional requirement and etiquette was placed immediately upon the organization of the society. It also set its foot upon the universal and prevailing custom of dentists to hold as secret and inviolable any information or "trick" of which they might be possessed, to the detriment of the progress of the profession they had banded themselves together to further. This spirit was in the right direction, and has been the means of building up that fraternal feeling which is now so characteristic of our colleges, our society meetings, and our literature.

The society, at a very early period, made its influence widely felt throughout the medical profession, many members of which were elected to honorary membership, and greatly esteemed the favor. Prominent among them was Professor Daniel Drake, one of the most gifted intellects the medical profession of this country has ever produced, and so high was his estimation of the scientific ability of the gentlemen composing the society at this time, that he sought information from them to incorporate in a work on medicine he was then preparing. His letter is as follows: *To the President of the Mississippi Valley Association of Dental Surgeons:*

SIR:—In the Historical and Practical Treatise on Our Diseases, which I am now engaged in preparing for the press, I have appropriated a chapter to maladies of the teeth, and am anxious to obtain from gentlemen devoted to their treatment, as much information as possible. Permit me, then, to request the members of the association over which you preside, such facts and observations as they may be able to communicate on the following points:

1. What is the nature of that diathesis, or constitutional predisposition or disorder (if any), which so often occasions decay in the deciduous teeth of our children?

2. To what causes, external or pathological, local or constitutional, shall we ascribe the premature decay of the second teeth, in the West? Is a hereditary scrofulous diathesis a cause of infirm teeth? Is dyspepsia a cause of early decay? Does the acid

thrown up by many dyspeptics, in paroxysms of that disease, act chemically on the teeth? What is the effect of repeated salivations on the teeth and gums? What are the effects of tobacco on the teeth, and are those of chewing and smoking the same?

3. Has the tartar of the teeth a constitutional origin?

4. Is the decay of teeth greater in the West than in the Atlantic States, in the same latitudes, and is there any difference in different latitudes in the same meridians?

5. Is there any difference as to soundness of teeth between our native and foreign population?

6. Are the teeth of our colored people less subject to decay than those of white who labor and live in a simple manner as to diet and drinks?

Replies to these questions (or information not referred to in them), on diseases of the mouth generally, communicated to me within the next few months, will be acknowledged as a favor, while I shall scrupulously give with every new or important observation the name of its author.

I have the honor to be, very respectfully, your obedient servant,

DANIEL DRAKE.

This letter was read to the society, and a resolution passed appointing a committee to comply with the request as far as possible, and also thanking Professor Drake for the interest he manifested in the promotion of dental science.

It may be mentioned in this connection that these very questions, in one form or another, have worried the brains of the profession from that day to this, and, it is safe to say, have not been adequately or scientifically answered. The man who can do so, may rest assured that his name will descend in perpetual honor in the annals of dentistry, and the people will rise up and call him blessed.

Professor Drake was one of the most prominent practitioners and teachers of medicine the West has ever produced, and it was especially in Cincinnati that he displayed his powers and influence in the advancement of medical and kindred sciences. Our present famous hospital is indebted to him for its establishment, and to him also the Ohio Medical College owes a great deal of its reputation in the early days of this city. Quite recently, one of the papers on the early history of the Ohio Valley, by Prof. Venable, and published in the Cincinnati *Commercial Gazette*, gave a

detailed account of his labors in Cincinnati that is not only interesting to those in this part of the country, but is of historical value.

At this meeting, 1846, was conceived the idea of publishing a dental journal and the *Register* is the outcome of a resolution by Dr. Edward Taylor, to the effect "that a committee of three be appointed by the chair to ascertain the cost of publishing a quarterly journal devoted to the interests of our profession, and, if they think it advisable, to propose a scheme for said publication, and submit it to the next annual meeting of this society."

The committee appointed to discharge this important trust consisted of Drs. James Taylor, John Allen, and Henry Crane, and right well did they execute the commission, for the result of their labors—*The Dental Register*—is known wherever there is a practicing dentist.

At the evening session of the same day, Dr. Edward Taylor offered an amendment to his resolution, authorizing the committee to issue during the year a specimen number, not to cost in excess of \$50.

It is, then, to Edward Taylor, that the profession owes the *Register*, and not his brother James, as has generally been thought, though the latter was its first editor, and lent to it the energies of an active and well-stored mind.

So far as the formative period of the Ohio Dental College is concerned, my search through the early minutes of the association has been in vain, for the only mention I find of it is, that the meeting of 1846 took place in its lecture room. This, however, may be accounted for by the fact that the society as a body took no action towards its founding, though its members individually were mainly instrumental in securing its charter and the necessary funds with which to purchase the ground and erect the college building.

All these facts were, at my request, gathered together by Prof. James Taylor and presented before the Alumni Association, at its meeting at the Burnet House, this city, in 1879, and his manuscript, which had been lost sight of subsequent to his death, has since been recovered and is now in possession of the Committee on History.

So long as our Association exists it may point with pride to its record of usefulness in achieving the two great feats of having been the progenitor of the oldest existing dental periodical in the

world and the second oldest dental college, both of which make their influence felt all over the civilized globe.

And now a word or two concerning the place of yearly meeting. During the first five years of its life the Association was accustomed to meet in Cincinnati. This habit, however, became of a migratory nature when in September of 1849 the members assembled in Louisville, deeming a change of place an advantage to the attendance, the name of the Association also implying a more cosmopolitan character. In 1850 the meeting again took place in Cincinnati, returning to Louisville the following year. In 1874 the society went to St. Louis, where it held its sessions together with the Missouri State society.

This scheme did not produce the results anticipated, for these are the only instances in which the annual meeting was held at any other locality than Cincinnati.

The examination of the minutes necessary for the preparation of this sketch has brought to light the fact that the records of the Association are by no means complete. Up to and including 1859 the minutes are intact; part of 1860 is missing. In 1862 no session was held, owing to the civil war. Three years' minutes are missing entirely, viz., 1866, 1868, 1869, while half of 1871 is absent.

This is certainly very much to be deplored, for it detracts from the value of the work as a continuous history of the progress of our profession during the last half century. It is barely possible that the lost records might be recovered if those taking part during the years mentioned would make inquiries of the officers then serving, and requesting that they hunt through their private papers, for there is no telling by what chance the rough draft of the proceedings may have slipped into some nook or crevice, and have remained unseen, unnoticed, all these years.

During its long existence, the Association did not always have bright skies and plain sailing, as one might suppose, judging from the harmony and good feeling that have so long held sway.

In one year, 1852, things were at a low ebb, interest seemed to flag, and indications pointed towards an adjournment *sine die*, and allow the College Association to become the medium of professional progress.

Upon this question, however, the members were equally divided, and the proposition was to disband and concentrate upon

the above-mentioned body. In order to prevent such calamity one of the younger and most active members hustled around and found two new members, viz., Dr. George Watt and Dr. John G. Hamill. The accession of these gentlemen evened things up, and it was the vote of the latter which turned the tide in favor of continuing the society. Interest was thus aroused anew, which resulted in increased attendance and harder work upon the part of the members in the succeeding year.

The society had many fathers, but in its hour of trial and sore distress it found its saviour in Dr. Hamill. He has long since gone to "that undiscovered country from whose borne no traveler returns," and it is but just that those who have succeeded him should pay this tribute to his memory.

Many instances of an interesting nature crop out here and there in the pages of the records, but which it is beyond the province of this paper to treat, though I may be pardoned if I engage your attention for a moment or two longer to mention a few of them.

During the first years of the society a large number of honorary members were elected, generally gentlemen from the medical profession. At its first meeting, it placed upon the list, Chapin A. Harris, the father of dental education, and, as Kingsley said in his address before the New England Dental Society: "Fortunate it was for posterity that Chapin A. Harris and his colleagues were denied admission to the medical colleges. They builded wiser than they knew. Dentistry, independent, has grown with a vigor unparalleled."

This is a fact to the truth of which there are living witnesses who were present at this meeting and cast their ballots in favor of Dr. Harris, who sought to affiliate himself with what he intuitively felt would be a great power in molding the future character of the newly born profession.

In the following year, among others, three gentlemen were elected to honorary membership, whose names were then famous in their professions and which time has only served to firmly cement in the annals of science. I refer to Prof. John Locke, Prof. R. D. Mussey, and Prof. Shotwell. The first was a chemist and philosopher of national reputation, who, I believe, was the inventor and maker of the famous clock, which he spent many years in perfecting and which the United States Congress pur-

chased for a large sum; it is now in daily use in the House of Representatives at Washington.

Prof. Mussey was the first to discover that the skin is an absorbent and that medication is possible by inunction.

Prof. Shotwell was a medical genius and was intimately identified with the early history of the Ohio Medical College.

The three Drs. Judkins were also members on the honorary list, J. P., William, and David, all of them prominent citizens and practitioners in Cincinnati half a century ago.

I might name Geo. Mendenhall, Prof. Gross, Samuel Martin and others among the most distinguished who were admitted to the councils of our dear old Society.

When I think of these men and what they were, it makes me blush to have to urge by personal appeal the attendance of members who should feel proud to be honored by having their names upon the society's roster. The walls of this room still ring with the sound of their voices and the words of wisdom which fell from their lips reverberate from the Alleghenies to the Rockies, for is not that the Mississippi Valley?

Of the number present at the organization, I know of but four who survive, Dr. John Allen, of New York, Dr. Charles Bonsall, Wm. M. Hunter, and A. Berry, all of Cincinnati.

It is possible that others may still be living. I hope they are and that all their days may be passed in peace and plenty.

The last one to pass away was our venerable friend Dr. J. P. Ulrey, of Lawrenceburg, Ind., his demise taking place but two or three months ago.

And now, fellow members, I trust I have not imposed too much upon your patience in presenting this incomplete outline of our society's history, and in conclusion allow me to express the hope that we will, one and all, from this time forth, emulate the example of the honored ones gone before us.

DISCUSSION.

After the presentation of the paper Dr. J. Taft spoke of the Association as being the oldest one in the United States, if not in the world, and its members were scattered throughout the whole universe. That many of our greatest dentists were members of this Association and it was one to feel proud of. That many of the ideas of association work, and many methods given to the

profession originated in this association and had been carried into other societies. He thought that each member should work for the interests of his fellow practitioners, and not for his own interests alone, and that it was unprofessional to obtain letters patent on dental materials and appliances.

DR. KEELY related an incident that occurred many years ago, when dentistry was in its infancy. With much interest he watched a certain dentist make a lower and a suction upper plate, which after completion were tried in the patient's mouth, but lo, when the jaws were parted the upper set would fall down and the lower set rear up. This however, did not disconcert the dentist who, after thorough examination of the teeth, said to the patient "all right. Give me a handkerchief!" After this was handed out, the teeth placed in the mouth and the jaws closed, he tied the handkerchief around the patient's head and jaws, dismissing her with the advice for her to take the plates out when she ate, but reinsert in the mouth and tie up the jaw as soon as the meal was finished and that she was to come to his office again after a few days. She returned as bid and after loosening the bandage the plates fell down as before. He quietly rebound the jaw and saying "all right," dismissed the patient for another few days. After two weeks time, with a few changes, the plates fitted remarkably well and were perfectly satisfactory.

DR. H. A. SMITH said that he became a member of the Association on the day of his graduation. Regarding the profession, he thought that whilst dentistry was trying and wearing on the operator, it was a glorious profession, and especially the social part of it, and that he could not see why all dentists are not society men.

DR. C. M. WRIGHT, Cincinnati, said this Association had also been a missionary society, as three of its members met on the Rigi, in Switzerland, and there established the Association of American Dentists in Europe.

DR. H. J. McKELLOPS, St. Louis, said that in 1864, he represented the association and introduced the hand-mallet in London, England, and in Paris, France.

A TEN MINUTES SERMON ON NUTRITION.

BY C. M. WRIGHT, D.D.S., CINCINNATI.

DON QUIXOTE.—“‘But reach hither thy hand, Sancho, and feel how many teeth are wanting on the right side of my upper jaw; for there I feel the pain.’

Sancho put his finger into Don Quixote’s mouth, and feeling about said: ‘How many teeth had your worship on this side?’

‘Four,’ answered Don Quixote, ‘besides the eye tooth, all perfect and sound.’

‘Think well what you say, sir,’ answered Sancho.

‘I say four, if not five,’ answered Don Quixote; ‘for in my whole life I never had a tooth drawn, nor have I lost one by rheum nor decay.’

‘Well then,’ said Sancho, ‘on this lower side your worship has but two and a half; and in the upper, neither half nor whole; all is as smooth and even as the palm of my hand.’

‘*Unfortunate that I am!*’ said Don Quixote, hearing these sad tidings from his squire; ‘I had rather they had torn off an arm, provided it were not the sword-arm; for thou must know, Sancho, that a mouth without teeth is like a mill without a stone; and that a diamond is not so precious as a tooth.’”

This scene and conversation was recorded by Cervantes just three hundred years ago; and we learn that the chivalrous knight of the sorrowful figure, seemed to appreciate fully, one at least, of the several, functions of the teeth, “for a mouth without teeth is like a mill without a stone.”

If we could have before our minds, a clear and full impression of the alimentary canal of a “higher animal,” and could see it work; could follow the entire process from the mouth onwards; could observe all the changes, and all the means of effecting the changes and in the cooked and uncooked products of the animal and vegetable kingdoms, which we call food-stuffs. If we could follow these processes as we can the operations of a paper mill, let us say, at one of our expositions, we should perhaps be tempted to cry out with Don Quixote “that a diamond is not more precious than a tooth,” because the teeth are the mill-stones in the continually progressing process of preparing and digesting food-stuffs for such animals.

We spend our lives in repairing and caring for this part, the vestibule as it were, of the alimentary canal of man and ought to be able to say, if we could lay aside all interested considerations, just how precious a tooth is; and I think we can say that perhaps no part of the man’s apparatus for the reduction and solu-

tion, or *digestion* of food-stuffs could be so easily dispensed with or replaced by other means so easily, as the teeth. A tooth then, is not as valuable as a diamond, unless it is beautiful in shape and position and assists in producing agreeable expressions of the passing emotions of the mind, as recorded in the human face; and, unless at the same time that it is a thing of beauty, it is also a stone in the mill—useful in the economy. The modern dentist has been accused lately, by a writer for a medical journal, of having become so imbued with the idea of the importance of “saving every tooth,” or rather of not extracting any tooth that can be made *tolerable* in its socket, that he fails to observe the broader view of the health of the entire body in his narrow view of his own art. He fails to observe that a tooth may be a means of injurious irritation, producing reflex troubles in the organism; these troubles manifesting themselves frequently in the special sense organs of the neighborhood,—the eye and the ear.

The accusation is in the main true against the better class of dentists, and possibly similar accusations might be brought against all so-called “specialists.” There certainly is a tendency of the human mind to magnify the importance of things which occupy its special attention. We do, no doubt, too often forget that the natural teeth of man can be dispensed with without perceptible detriment to the general health, and that often it were better that one tooth should be cast out, rather than that the function of the entire organ should be destroyed. To stick to Don Quixote’s simile about the mill stone, we might say that a mill stone with a flaw is of no value and that the miller should rather try to pulverize his corn in a mortar with a pestle, or with a hammer than by the use of the imperfect mill stone.

We are prone to forget, in the study of our fine methods, what we should wish to accomplish. We must not forget that a handsome artificial crown, set in the most ingenious of our many methods, upon a tooth root, is of no value, if that root has severed its friendly relations with the central nervous system of the body, so that it cannot call for an extra blood supply in case of need, as every healthy tissue can; if it cannot set the vaso-motor nerves at work, and influence the entire circulation, and the action of the heart, and prove that it is still a part of the organism; and even if it could do this, and when pabulum is supplied by other than perfectly natural stimuli, if it is so weak, so degenerate that

on such an occasion it could not take up the food offered to it and satisfy itself with it and give off its proper waste, but must remain like a thorn in the flesh, of what beauty or value is the new method of our art?

The tooth is a living part of a living body. It is a part of the organism, and it is under the same laws that govern all living matter, whether that living matter be found in a seed of a plant, an amœba, a bacteria, or the brain of a man. Each atom of living matter in the universe, whether it be found floating in an apparent independence in the air about us, or is dredged from the depths of the sea, is subject to the laws of all living matter—is subject to the laws of nutrition. There are three things indispensable to what we call nutrition, whether of the living atom, or the complex organism of the most perfect animal. These three things are:

1st. A supply of proper pabulum.

2d. The condition of the organism to be able to satisfy itself, to appropriate, to take in this pabulum—or the power of assimilation.

3d. The means or power of getting rid of the results of this metabolism—the waste, the ashes, the effects of its own activity.

We know how true this is in regard to an animal. We know that the study of anatomy and physiology seems to be only a study of apparatus, for the taking in and dissolving and circulating and burning up vegetable and animal products, and the getting rid of the waste, the results of the combustion, and that the sole object of the organism seems to be, to seek for, and take in from earth and air, food; to burn up this food in its tissues; and to return the products to the earth and air. It seems to be the sole design of all the beautiful arrangements of the organs and tissues even of man to enable him simply to eat, drink, be merry and die. When we follow the life history of a little jelly-like speck of living matter, too minute to be observed excepting by powerful magnifying lenses, we observe the same thing. The little jelly-like speck eats, drinks, is merry and dies, leaving other little jelly-like specks to follow the same everlasting destiny.

We have come to regard the science of medicine, as based upon these facts. Its physiology is the proper action of organisms in reference to normal income and normal outgo. (In a physiological state every tissue, as well as the entire body is

merry.) Its pathology is simply a variation more or less in reference to the proper action of these things, and its therapeutics, is an attempt to regulate the income and outgo. While this is the law for the whole body, it is the law for every part, and the specialist who proposes to attend to the pathology and therapeutics of a part, can no more cut himself off and say, "I treat the ear, the eye, the tooth, and let the general practitioner take care of the body," than could the rudder of a ship say "I turn whichever way I please, absolutely independent of the general motion of the ship. Let the engine work the propeller as it pleases; let the wind blow against the sails as it listeth; they too, are specialists (brought up in different schools), I, as the rudder, will take care of my own department." We can no more separate the tooth from the laws of nutrition and retain it in the tissues of the body, than we can expect a glass tooth, or a leaden tooth to be brought under these same laws, and attain the power of assimilation, no matter where it might be implanted in the tissues.

The tooth then being a living body, capable of taking up pabulum, using this pabulum for its own benefit, and giving off its waste, like every other tissue must remain in physiological relations with the entire organism, and it is our business to maintain these relations between the tooth and the entire body if possible. When harmony is lost, beyond our power to recover it,—when from mal-position of one tooth or an entire set, or from any cause, the beauty of the patient is destroyed, or the use of the set of teeth as an organ of mastication is destroyed, a tooth or a set of teeth is of no more value than a rudder which cannot be made to answer the steersman's wheel. Cut it off then and depend upon the compensating energy of the engine and the sails! This is our work, and it is a great one, if we do not take too narrow a view of it.

We grope about in the twilight. We do not see clearly what goes on just below the surface. We are not settled in our opinions about the morphology of the tissues; but, we have seen some things which teach us that when we cut into the dentine of a tooth with our engines or excavators, even though the sense of pain, has not been awakened, we have made an impression upon the central nervous system, which will call into counsel the heart and every tissue of the body, and measures will be taken, assisted by every tissue of the body to protect that tooth from the threatened danger.

The apparently slight irritation of a peripheral pin-head excavation made in the progress of dental caries on a molar tooth, though giving no notice to the sensorium of the man, will call out increased nutritive energies of the dental pulp, and it immediately begins to protect itself, as it were, with the products of its increased activity. Who would call this a purely local affair? Has the general circulation not been affected? Have the nervous centres no hand in the affair? Have the remotest tissues of the body not sympathized with the tooth? What whispers has the blood carried in its flying visit to the living cells of other tissues?

A delicate instrument, capable of marking every change in income and outgo, would show a variation in the nutrition of the whole body on account of this little "dental caries" affecting one molar tooth in this strong man's mouth, for where does the tooth get its nourishment if not from the food which it helps to grind and which passes on to the embraces of the solvents in the different parts of the factory.

Two or three years ago, a dispute arose in this very society, in regard to the question of whether "dental caries" could be called a *disease* of the teeth or not. May I be pardoned for making the apparently dogmatic assertions, that "dental caries" in a living tooth is a disease which, without reference to its etiology, affects, not only the tooth, but more or less the entire organism, and that the dentist of the future will, when examining a simple "*cavity*" in a tooth, have before his mind's eye, the entire panorama of the dependence of one tissue of a complex organism upon every other tissue, in its relation to nutrition. The dentist of the future will know that when he operates upon a tooth for the obliteration of a cavity of decay, or for the removal of injurious deposits about the neck, that his object is to place the living tooth in a condition of harmony with the nutritive functions of the entire organism, and that the last simple mechanical operation of "scaling" the teeth is just so much of a local remedy as is the administration of aconite as a cardiac depressant, and no more.

We may have separate schools for special instruction in our art. We may have separate journals for the dissemination of views relating to our art, the subject matter of which cannot be of any more interest to the general practitioner of medicine, than would detailed accounts of obstetrical cases be to us; yet, the science and art of dentistry can have no other foundation upon

which to rest than that which must support "general medicine." The gynecologist falls into routine ways of practice as does the dentist, but biology in its departments of morphology and physiology *must* form the foundation of both their *arts*.

DISCUSSION.

DR. A. O. RAWLS, Lexington, Ky.: This subject involves implantation and replantation of teeth and teeth where the pulps have been destroyed. Now the pulp is not the only essential to nutrition of the teeth. I believe in an intricate anastomosis of the nerves and vessels to supply the teeth to a certain extent. We might have an endosmotic or exostosed condition that would keep it tolerant to the teeth, yet, as far as true nutrition is concerned, it is not there. After the death of a pulp, some parts of the tooth, by an anastomosis and breaking up of the nerves and vessels, are still supplied with a round of circulation but not as perfect as before. Nutrition is supplied throughout the living tooth, and cut off one part of the nutrition, as the pulp, and you cut off a supply from the other parts. We are fast growing out of the idea of depending on a cicatricial matrix to save the tooth more than on the ordinary nutrition.

DR. H. A. SMITH: Nutrition is maintained in all parts of the dentine and enamel and when the tooth is anywhere attacked by decay it makes a defect in the nutrition of that organ. There is a disputed point as to whether the teeth of adults contain more inorganic matter than those of young subjects? and it induces the following questions, whether the teeth of adults have greater density? Is it true? It may be apparently so, but is it real? Dr. Wright maintains the opinion that they are the same throughout again, if it effects nutrition by carrying in this recuperative material. We assume that when there is a large deposit of tartar on the teeth they are less prone to decay, and if decay was present we find it apparently checked after this deposition. Now is this due to the consolidation and density of the teeth, or due to the accumulated tartar protecting the members? and if there is more deposition on the teeth, are they more or are they less nourished? Old people do not generally overeat, yet we find a greater accumulation of tartar on the teeth at that stage of life. Is it not because the teeth and bones have reached their required density and do not need the lime salts further supplied?

DR. F. W. SAGE: Regarding the deposition of tartar it is a

question in my mind whether this deposition and hardening process are not a coincidence. Deposits on the teeth may be accounted for in several ways. For instance, there are people who lead a sedentary life and do not exercise enough to get up a perspiration to carry off the effete matter which, if not eliminated by this means, passes through the circulatory vessels and a portion is deposited in the mouth through the salivary glands. Again, in this class of subjects through a lack of exercise the ammonia in the system is not worked off and this too is carried to the salivary glands, thence into the mouth where it has a tendency to neutralize the acids there present. The attempt at saving pulpless teeth is often a failure because the teeth are without antagonists and much of the crown and bridge-work would come under this head and the teeth should have been extracted instead of being treated and filled.

DR. J. TAFT: As the paper intimates, the nutrition of the teeth corresponds to that of other organs of the body, and it is an important and practical thing to the dentist. If a dentist has the care of a child, it is as important to him as to the physician, that good nutrition be maintained. As the child is well nourished and built up, so will the teeth be built up accordingly, and be able to resist the action of destructive agents. Every adult, when ailing, has his nutritive functions more or less impaired and the teeth will suffer accordingly as the rest of the system. May the dentist not render as valuable service to the patient by telling him how to prevent the disease as to only check it by filling, or by the insertion of artificial dentures? When the dentist has a feeble patient, it is a great matter to him; much more than when a patient is a healthy one. If the dentist is to have the care of a patient for a long time, it is of great importance to him as to how that patient is nourished. Every one knows what embarrassments a sickly patient brings, for in this state, there is no doubt but that the nutrition in the teeth is correspondingly impaired and these organs are then less able to resist the action of decay producing agents.

Does the tooth remain in the same condition throughout life?

There is no doubt as to a change in the substance of the teeth as age advances. The teeth of a child contain much more organic matter than those of older people. In later years of life, the tissues become dense. We find the proof of this in

1st. Children's teeth are much more easily cut away and broken down under the excavator than those of older persons. The teeth can only become hardened by a deposit of inorganic substances.

2nd. Through the want of nutrition the teeth become soft.

3rd. The tubuli are larger in the teeth of young people than in those of the adult.

4th. Chemical analysis shows more inorganic material in the teeth of the adult.

How long is a tooth nourished after the death of a pulp?

The tooth receives its entire supply from the pulp for the enamel and dentine, but the cementum is supplied both from the pulp and periosteum, so when the pulp is destroyed the tooth does not become a foreign substance. The cementum being nourished by the periosteum, the tooth is retained in its place through this means. There are times when the tubuli in the teeth of children undergo a change, as when the periosteum becomes disturbed or the nutrition is defective.

He here cited a case he had on hand at that time. It was that of an inferior molar where the pulp had been destroyed. The tooth was dark, owing to the change in the organic matter. That in such cases the teeth often could not be restored to their natural appearance.

DR. M. H. FLETCHER exhibited some specimens of ivory, showing a beautiful new growth caused from stimulation incited by irritation. The first showed where a bullet shot into ivory had been almost enclosed in a new growth. The second showed where a bullet had ulcerated out. The third showed a perfect encystment of the ball.

He then said: We all know that amalgam and such fillings often incite a deposit of secondary dentine, and he believed that the tooth pulp was capable of supplying this secondary dentine even after the fiftieth year of age. The tubuli are larger at the odontoblast cells than at their other extremity, and as age advances, these become smaller through filling up with this deposit. I have in my possession a lateral incisor which was worn down into the pulp cavity, showing a deposition of secondary dentine, that almost filled the entire pulp cavity. This patient was over forty-five years of age.

DR. A. W. HARLAN, Chicago: I hardly know where to begin,

but think I shall begin at the last part of Dr. Wright's paper. He said that a dentist should be more than a tooth filler, he should be full of knowledge. One of the greatest needs of the profession is, that its members should have a wider range of knowledge; something more than that required for the mere filling of teeth or the insertion of artificial ones. As to pulpless teeth, I do not agree to the total annihilation of a tooth after the pulp is devitalized. A pulpless tooth may not be a foreign body. The writer thought it better to extract than to leave these teeth in the jaw, as they never performed the same functions as before devitalization. If all the pulpless teeth were removed a great many more people to-day would be edentulous.

There are many mouths where from one-half dozen to a dozen pulpless teeth are retained in a satisfactory if not in a perfect condition. At any rate they are useful members, and it is injurious to teach that the majority of pulpless teeth should be extracted. It is true that there are many that should be, but it requires good judgment and observation to know just when to extract. After a tooth is once formed, has emerged through the gum and taken its place in the dental arch, it increases in density very little, if any, after the twentieth year, except from mechanical and other external causes. This does not necessarily impair it for its functional use. If decay occurs, from the environment of appropriation we get an increased deposition of inorganic material, but ordinarily the nutrition is only sufficient to maintain the tooth in a physiological state. The tooth substance is not torn down and carried thence into the circulation, but is a fixed tissue.

Referring to the encysted bullet; the deposit of secondary dentine was caused by irritation. Take a sound tooth with a proper antagonist, and the patient in good health, has it been observed that such pulps have been encroached upon by the deposition of this inorganic material? It is said that Tomes extracted tooth after tooth, where there were foreign deposits, but in searching for other cases, among thousands of samples, I was not able to find twenty such specimens. If any more nutrition than enough to retain the tooth in a vital state is possible, why do we not find more such cases?

DR. RAWLS: The gentleman is entirely wrong. We do not think it necessary that the tooth substance should be foreign in

order to be torn down. Any cavity filled with a liquid has a disposition to close by hardening the soft tissues and mummifying them. These are added from time to time and if we could live long enough we would not have a particle of organic matter in one of our bones; they would all be mummified. It is perfectly absurd to think of a pulpless tooth ever becoming healthy, for the anastomosis is broken up. Destroy the pulp and you have a foreign substance between the parts. If the cement is once in contact with the dentine, there is a foreign substance acting upon it, and in this case must either be encysted or become an irritant.

DR. McKELLOPS: Take it where an old person's bone is broken, why does it not unite?

DR. RAWLS: You may have that difficulty in the bones of old people on account of the insufficient supply of nutritive materials. Where the bones do not unite readily, sometimes ivory pins are driven into them for the purpose of increasing the nutritive supply by stimulation. Is nutrition given to the tooth after it has been formed? It changes all the time, growing in from without until it is closed up entirely. All teeth solidify, except where the patient lives in such a way as to take the lime salts from the teeth. I saw a case recently where a southern man's teeth were so solid the dentist had to break the teeth and take them out piece by piece until nearly the whole of the process had been broken away.

DR. FLETCHER: It is not unusual to have Haversian canals in the cementum and sometimes the tubuli can be seen running into the dentine and enamel, thereby furnishing a supply enough to keep the tooth for years. I can show where coloring fluid has penetrated these canals and gone to the dentine and enamel.

DR. McKELLOPS: We see a great deal of abrasion and have all these years been at a loss to know or understand the cause of it. At the present time it is thought to be due to the action of the secretion of the mucous follicles of the lip. Turn up the lip and hold it there until it dries, then test the secretions from these glands and you will find that they have an acid reaction. Dr. Patrick is investigating with every prospect of valuable developments. No case of abrasion ever occurred from the use of a tooth brush. This abrasion I think comes from the action of a deposit of this acid secretion lying on the teeth night after night. Some of the follicles give off this secretion and others do not, which

explains why we may have abrasion on one tooth and not on another, or in the mouths of some patients and not in those of others.

DR. SMITH: If we have a withdrawal of the lime salts from the tooth under varying circumstances, why can we not account for abrasion in this way? Can we distinguish mechanical abrasion from chemical erosion?

DR. J. TAFT: There are specimens now on hand of teeth that were broken in the early period of life when the crowns were broken off near the roots and afterwards reunited. If there had not been a nutrient supply to the dentine through the pulp no union would have taken place. Dr. Rawls left us in the dark in speaking as he did of dead teeth, "That the dentine was devitalized and therefore a foreign substance which could not be in contact with living tissues without becoming encysted or irritating." I think this cement lies in union with the periosteum and we know that a union between the cement and devitalized dentine does remain. That the cement retains its vitality after the death of the pulp, is far more likely than that the cement becomes devitalized and the periosteum keeps a firm hold on that. I do not think the cement dies but keeps up a nutrient supply so long as the tooth remains without periosteal disturbances.

DR. W. N. MORRISON, St. Louis: I am much interested in the subject of implantation. As to the peridental membrane retaining its vitality during the years a tooth is out of the socket, we do not know but that the tooth after replantation regains that life there is doubt. There has been no investigation to show how deep devitalization has entered into these cases.

DR. McKELLOPS: I was anxious to see Dr. Younger operate and telegraphed him to come to my office. The first case of replantation he had there was that of a lady thirty years of age. The tooth used for replantation had been out of the mouth two years, but six weeks after replanting it was perfectly solid in the jaw, all inflammation had subsided, and although the tooth when inserted was much lighter colored than the rest, in two hours it assumed such a natural color that it could not be distinguished from the other teeth. It is just as solid now as any of the teeth and there is no irritation present. Percussion has been used on it with immunity. Many professors and scientific people have examined the mouth and been unable to tell which was the

replanted tooth. Now there are people who do not believe in this method, they think it is against all physiological principles. Dr. Rawls has said much in the *Southern Journal* against Dr. Younger and his operations. But give a man a fair show before you pass criticism on his methods. Dr. Younger is a careful operator. He first takes the tooth to be replanted and drills out the cavity from the apex of the root up. This he thoroughly cleanses out with 1 part of bichloride of mercury to 1000 of water and fills with chlora-percha, capping with gold at the apex. The periodontal membrane must be preserved or no union will take place and the tooth will drop out, because it then becomes a foreign body. After the tooth is thus prepared he takes his trephine and drill and after making the incision in the gum and laying back the tissues forms the cavity in the process. The trephine is so marked that it cuts just the exact distance into the process. The tooth is tried into the cavity time and again until it fits, then the operation is completed. No ligatures are necessary to retain the tooth in its place. It would seem as though the operation would be a severe one but after the incision of the gum there is no pain experienced. The nutrition is received through the periosteum.

DR. RAWLS: I have every good will for a man who gives something new to the profession, but when these statements of Dr. Younger's came out I wrote the articles in the *Southern Journal* because his statements were erroneous and reflected on Drs. Morrison, McKellops and others and on the profession generally, and they were statements he cannot prove. I know just how the teeth are and only how they can be retained in the jaw. There is not always a union where there is a membrane. The tissue on a tooth may be dead, the same as you find it in the mummy, and you cannot say that that is living tissue! It is not that nutrition is established there that keeps the tooth in place, but that the delicate tentacles of the periosteum stretch out and clasp the dried membrane of the tooth and hold it in the socket. The tooth fills up with fluids and is supplied through a round and round of circulation and when this is cut off the nutrition is stopped. All the nutrition a replanted tooth gets is by imbibition; the same as a sponge would take up water.

DR. WRIGHT: The restoration of color to the tooth is due to the absorption of the fluids of the mouth.

IRREGULARITIES OF THE TEETH.

DR. GEORGE W. KEELY read a paper on the subject which he illustrated by drawings, discussions, and models.

DR. BERRY said that every dentist ought to be familiar with the subject, and that it was a grand thing in the profession, yet every dentist had a right and it was his duty to do as he liked. That while regulating was one of the most important departments of dentistry, it was not very remunerative, as nine cases out of ten did not pay.

DR. WRIGHT thought that the practitioner ought to have knowledge enough to know when not to do harm by regulating. He should study well the case in hand and know just what he is doing before he begins the operation.

DR. MORRISON: I can but note the advance that Dr. Keely makes year by year, and I like the manner in which he does, that is, after slight assistance, in depending on nature to bring about the result. I take exceptions however to his removing obstructions. I have never seen a case where benefit was derived from the extraction of molars and bicuspid. I have seen cases where benefit was apparent, but nature brought about the result better than it would have been after extraction, and all the teeth were retained. I have seen cases pictured out on plates or charts, where the teeth apparently looked well, but in reality were like people having but four fingers on the hand. For all these teeth may articulate well, when you examine them anatomically you will find that they are not perfect where the molars meet one over the other, for this is not the correct articulation. The long faces should strike and not merely the cusps and points occlude. Irregularities is an important and interesting subject. We should start with the deciduous teeth and preserve all if we can. If it becomes necessary to lose the pulp, take that but keep the tooth; or, if the crown has to be taken off, leave the root, allowing the space to remain as it is, which will have a tendency to expand the growing jaw both ways. When the permanent tooth erupts, it will force its way up between these roots and find good space for its accommodation. When the roots are left in this manner, it requires a little more attention with the tooth brush, but the result is much more satisfactory. I feel that the functions are impaired when we extract. I do not think taking out the pulp in

children's teeth and disinfecting is as difficult as a good many seem to make out. After removing the débris, cleanse the cavity out well with warm water, disinfect, and fill with some plastic material or something to stop up the cavity.

DR. KEELY: What would you do in case of the first lower bicuspid being driven out by the deciduous molar until it was erupting wholly outside the arch?

DR. MORRISON: In that case I would extract. I do not mean to never extract, because it is sometimes necessary; but I mean as a general thing I retain the teeth where it is possible.

DR. FLETCHER: What course would you pursue where the child has inherited the small maxillary bones of one parent and the large teeth from the other. Would you leave such a case entirely to nature?

DR. MORRISON: I do not leave all to nature, but assist her just enough to let her get hold and form new tissues. A simple wedging will work wonders. In cases of this kind do not be in a hurry to extract, but wait for six months or a year, watching closely, and like the child, it is liable to take a fresh start and shoot up, and you will be surprised at the result that follows nature's workings. Give nature a chance and she will do her work right every time.

DR. McKELLOPS: Where are any two mouths alike? Suppose the teeth are badly diseased, perhaps both anteriorly and posteriorly that you are going to regulate. Is it good dentistry to keep that patient in pain for a year or two by means of different appliances, and at the end of that time, perhaps, have a leakage and have to extract? I think Dr. Keely has done wonders, and it is what I call good dentistry. I say it is good practice to take out teeth that stand in the way. It is preaching too strong to say "here, I can make the face so and so." You cannot always do it. Neither can you always sit in your office and think that is the only place. You must go about and see. Make good observation would you become proficient in this great profession.

He here related a case in practice. It was that of a young lady aged seventeen years. In the eruption of the teeth, no lateral incisors appeared and spaces were left between the incisors, the cuspid and bicuspid and bicuspid and molar, but with the aid of Dr. Burns' gold band he succeeded in bringing all the teeth, except the front ones, together in six weeks and could have

brought them together had he had a little more time before the patient left the city. There were six or eight children in this family all of whom had this same defective dentition.

DR. WRIGHT: We ought to go back five or six generations to get at the root of this evil, but when patients come as they do now, we must do the best we can, and I think Dr. Keely's article denoted the proper course to pursue.

DR. KEELY: I have in mind a case of a child aged nine, where the second molar is badly decayed, arch narrow, the two centrals erupted in place, but the laterals twisted and the space between the teeth not large enough to allow the laterals to come down in place. Which is best to do in this case, that will be best for the child, shall we remove the obstruction or let it go for nature to ultimately bring into place? I advised extraction of the molar.

THE RELATION OF DENTISTRY AND MEDICINE.

BY WALTER A. DUN, M.D., M.R.C.S., CINCINNATI.

TO SPEAK of the relation of these branches to each other, is to speak of the relation of a part to the whole, or of a child to its mother. When medicine is taken in its broadest sense as embracing everything which pertains to the practice of the healing art, the science of dentistry is clearly embraced within its scope.

As knowledge advanced in the broad art of healing, three great branches, surgery, obstetrics, and general medicine crawled about in the dark ignorance which surrounded the old parent, as the most clearly defined subjects, with broad differences to distinguish them as the early offspring. In the historical aspects of these births there is much that seems ludicrous. Thus the subject of surgery not only included dentistry but the barber's art, and in general drifted in that way. While general medicine got tinctured with monks and their ways, and thus in the early start upon their separate roads, one was accompanied with the rough usage and coarse, heartless ways of the barbers, whose very name conveys what barbarians they were, and are. While general medicine took her way with the peaceful followers and teachers of Christ, and thus became impressed with a divine nature to her calling. There were many offshoots in the past from all these

great divisions, but from none have so many sprung as from surgery, or as it was styled before the barber's and surgeon's split, "barbary." Naturally from old association, some of the odors and perchance some salves of the barbers clung to the surgeons, so that an offensive odor fell to surgery in the start, which it has striven long and manfully to throw off. A difficult undertaking when we all recall how seemingly brutal and unfeeling bloody operations appear to-day. Let us only imagine then how much more brutal many of them were, and how painful they appeared in the long experimental evolution of that art before the days of anæsthetics. Do we wonder that from such a branch any subdivision was loth to separate, and endeavor to lead a respectable course and leave behind nauseous odors and associations of the older division?

Dentistry is one of these divisions of medicine then, more closely speaking, a subdivision of that branch of medicine called surgery, which left the surgeons ranks a long time ago and has probably strayed further from the original source, than any other division. Dentistry, however, in common with many other branches of surgery has grown into a distinct and well recognized specialty. It has relations to both surgery and general medicine, but a long separation has served to estrange it almost completely from both. In recent years the tendency is to a closer relation. The members of both professions have come to recognize the importance of a closer understanding. That there are mutual benefits to be derived from a better feeling is certain, for the use of chloroform and antiseptics in the past shows what interchange of useful remedies of the one will do for the other. These relations which I have just been speaking of apply more closely to surgery, with which the relations of dentistry are obviously many. It is my present purpose in a short paper, to point out some relations between general medicine and dentistry, which I believe are not sufficiently recognized and dwelt upon in both professions, and probably these are not as widely known in the profession of medicine as they should be.

Before entering upon the subject matter of this paper, I must congratulate the dental profession upon their success and the high recognition which they have gained for themselves. I have already pointed out the barbarous odors which surround their birth. These have not been without additions from foul

mouths and breaths. Yet with all the inherited and accumulated repugnance in the practice of dentistry, you have so conducted yourselves and improved and advanced your calling, by wondrous progress, that all the bad caste of dentistry is lost in the recognition of your enlightenment and attainments. I congratulate you again upon the recognition which you justly deserve and which you have compelled all alike to grant. It is with no little pride too, that I claim most of this for America and the Americans. The dentists have outstripped the American physicians in keeping the lead of their profession throughout the world, and have reason to be justly proud of it.

From quite a number of points of relationship between dentistry and medicine I have selected two which are far more important than all others, viz : troubles with digestion, and hypnotism.

The teeth are the most important index to the proper food for a child. When they appear, their presence means that they have come to be used, and in proportion to their number and grouping are we justified in changing the diet from the milk, which is supplied from the breast of the mother, to the other articles of adult diet which require chewing and grinding in order to prepare them for their normal solution, by the juices of the alimentary canal. Most of our great mortality among infants arises from improper food, and not paying attention to the teeth which stand in the mouth as *Nature's* index to guide all.

In adult life, from the various factors which may be summed up as factors of civilization, the teeth often decay early and become imperfect. It too often happens that from the rush of strife in business, more active in the adult period, than at any other time of life, the teeth are allowed to go unkept, unthought of, and almost unused. The neglect of these brings foulness and decay, which pollutes the air we breath and food we swallow. The work of the teeth is thrown on the stomach—to which the foulness of the former is added—and instead of wholesome, clean, very finely divided food, which which the stomach should normally receive, it gets a mass of large lumps foul with large colonies of micro-organisms and decomposing remnants of mucus and food, dislodged from the teeth. Dyspepsia in all its variety and stages results. In case the total disregard of the natural laws of the teeth continues, pyrosis, acid stomach, or water brash arises to complete the destruction by chemical solution of the molars which decay has spared. This condition of dyspepsia, associated with imperfect

mastication is so common in my experience, that I have yet to see a single case of dyspepsia without it.

The medical treatment of dyspepsia, in nearly all early cases, is successful in case the patients will resume the normal use of the teeth, while all chronic cases are greatly relieved by this plan alone. In old age, where from use or age the teeth are imperfect or lost, there is a return to the condition of the liquid food of infancy, still the depressed vitality of old age, and the taste for the diet acquired in adult life, brings indigestions in its train, which it has been the province of dentistry to relieve by artificial teeth. Artificial teeth are a far greater boon to mankind than glasses for the eyes, and the day is near when to wear them, will be as much the fashion and as respectable as glasses are to-day.

The medical profession are too apt to forget the teeth and mastication, and resort to many other means. Dentists on the other hand, have in a measure been led into artificial teeth by the vanity of the looks of the wearer, yet they have succeeded in perfecting a most important aid to all physicians in the treatment of indigestions. By these means the folly of adult life can be partially relieved and the period of liquid food in old age put off many years or abolished entirely. The follies of men, are always to be with us they invariably choose the pound of cure to the ounce of prevention, consequently in cleansing the mouth, filling cavities in the teeth, or supplying their places with artificial substitutes, dentists give physicians great means for the cure of dyspepsias and alleviating the suffering of advanced life, which physicians ought to be the first to appreciate and advocate.

All I have said about dyspepsias has been to show how much the profession of medicine owes to modern dentistry. In the second point *hypnotism*, I desire to point out to this association of dentists, that medicine has here a power, which can often be turned to their advantage. This art of hypnotism is strongly urged by Charcot, and while as old as the hills, has for a long time been considered a dark art, and unfortunately poohooed by most men as savoring of quackery and charlatanism. I predict that a few years will find this useful art, and physic power widely diffused and practiced, for the relief of pain in filling and extracting teeth. Only remember, that in its use you need practice, skill, and manliness, and you will find it an invaluable power. For local anæsthetic effect it does as well as chloroform and is accompanied with infinitely less danger.

DISCUSSION.

DR. H. A. SMITH: I had a case during the last year under this hypnotic influence and found perfect insensibility. There was decay on the labial surface of the incisors. The patient was very nervous and she brought a friend with her, who had the power to perform this hypnotic influence. The cavities had been very sensitive but I went at them at will, and the patient experienced no pain whatever.

DR. FLETCHER: I extracted some roots for a gentleman aged thirty-five, and no pain was experienced.

DR. KEELY: I have done extracting time and again while the patient was under this influence. One case was that of a patient who had suffered from neuralgia and had nine teeth that should be extracted. The patient was wide awake but experienced no pain. The ninth tooth broke, and not having a better instrument at hand I took a piece of an old penknife and prodded fully half an hour to get the roots out.

NEW REMEDIES.

BY A. W. HARLAN, M.D., D.D.S., CHICAGO.

THERE have been a number of drugs brought to our notice during the past few years, some of which have already been adopted in the daily practice of many dentists. Very often dentists, like doctors read of the supposed wonders that a new drug will accomplish and pass it by for the time being, expecting to use it when occasion offers. This may not be for a long time if the drug is not easily obtainable, is high-priced or its properties not well understood. If we look back for only a short period it will be noticed that as long as cocaine was scarce, there was a steady demand for it, but now I fancy there are many dentists who after their curiosity was satisfied have ceased using it. It does not follow that something better has supplanted it, they were disappointed in its use because it would not act uniformly in all cases. For a variety of reasons, either the drug was impure, lacked potency, or it was improperly exhibited; at any rate it would not obtund sensibility in dentine, and there was the place where it was most needed. Cocaine then and now is of value, but it has not a wide range of usefulness in the daily prac-

tice of dentistry. The novelty has worn off and it is finding its legitimate place as a local anæsthetic for the soft tissues.

The newer remedies are *iodol*, *aseptol*, *eulyptol* and *trichlorophenol*. Of the first, if it was intended to supplant iodoform, it has one virtue in not being nauseous to smell. I have used it, combined with pure tereben to paint the edges of ragged gums, as a dressing after the removal of necrosed bone, and have packed it into pockets around teeth to check the production of pus. In all such cases it may be substituted for iodoform. In combination with oil of wintergreen, packed into foul smelling roots it acts with certainty, destroying the odor and rendering them aseptic in from three to five days. It is useful in teeth with exposed pulps causing no pain, but very quickly subduing it.

It may be packed into indurated folds of the gums or mucous membrane, and after a short period such tissues become less rigid and regain their normal sensibility and mobility. Aseptol or sogolic acid is an oily liquid with an acid reaction, soluble in water and other menstrua, and is a powerful germicide and disinfectant. I have made some experiments with it in the dressing of foul ulcers and also in sinuses leading from necrosed bone. When it has been applied to inflamed gums and injected between them and the roots of teeth the redness and soreness has quickly disappeared. It is a stimulant locally when diluted to one in ten or even one in forty. It may be injected, always largely diluted, into and through roots of teeth with fistulous opening. It will cure pain if applied in full strength to an exposed pulp, but by adding an essential oil, such as cloves or gaultheria it quickly becomes an anodyne and local stimulant and a very feeble coagulator of albumen. As a spray in a two per cent. solution for the nose or throat it is admirable as well as for irrigating the antrum. *Eulyptol* is composed of *six parts of salicylic acid, two parts crystals carbolic acid, and one part eucalyptol*. This makes a consistent paste which will stick to the neck of a tooth or the gum (if previously dried) for a longer time than any other medicament with which I am acquainted. I have used it in treatment of sensitive necks of teeth with success. Its only rival is the oleo-resin of kava-kava. It is a powerful disinfectant but not so potent as aseptol. It has been used experimentally for obtunding dentine, but as yet, it does not appear to rank with cocaine, ether or the fluid extract *Cannabis indica*. It may be

smeared into a pulp chamber and covered with cotton soaked in a gutta-percha solution and allowed to remain for a few days before using a broach in the canal to remove putrid matter, with success. It is a deodorizer and preservative, and if it has no further good quality than the one of adhering to the neck of a tooth and removing the sensitiveness at that point it is a valuable addition to our armamentarium. *Trichlorphenol* contains three atoms of chlorine in place of hydrogen in carbolic acid. It is not soluble in water but freely so in alcohol, ether, essential oils, glycerine, etc. I prefer solvents in the order named—glycerine, essential oils, alcohol and ether. It is stated to be twenty-five times more powerful than carbolic acid, hence weak solutions are to be prepared. It checks the production of pus, is a stimulant and non-irritant in solutions of less than twenty per cent. and may be used whenever iodoform is indicated as an antiseptic dressing and is a certain disinfectant. Its weak point is non-solubility in water. It forms soluble salts with bases and on this account may prove of value in the treatment of phagedena.

Some one may ask why we should try new and in some cases untried remedies when there are many old and prompt acting agents for use in the treatment of all known diseases. My answer would be, efficiency, potency, non-poisonous properties and palatableness are all sought in the order named, and when a new drug possesses these it is our duty to substitute it for the old, proving our interest in progress, and a determination to base practice on fixed principles of scientific advancement.

DR. A. W. HARLAN further said: In regard to obtundents, a good deal depends upon the operator and his ability to influence the patient. In so many cases of sensitiveness as we have to deal with, we must have some obtundent. Absolute alcohol is good in some places. When the rubber has been adjusted and the cavity dry, pain is more pronounced upon application of any medicine, and especially if it be a cold liquid. It is better to apply the obtundent warm, as there is less pain, and it also increases the local anæsthetic property. Alcohol, or anything that evaporates the water in the tooth, causes pain for a moment, but this soon passes off and we get the desired effect.

In regard to disinfecting; how many know why they use carbolic acid? It would take one hundred and fifty pounds of it to disinfect a room in which there had been scarlet fever, while one

cent's worth of bichloride of mercury would do the same thing. It is not enough to destroy the infectious matter, but we must destroy the spores. Every time a probe is used it must be thoroughly disinfected before using on another case. How many have caused swelling, abscess, etc., by pushing such instruments through the apex of the roots? This can be prevented by spraying with some disinfectant before operating. You must disinfect to prevent the entrance of microbes from the air.

DR. J. S. CASSIDY: Aseptol covers a larger field than any of the substances of which it is formed. In regard to cocaine, if a good preparation is used it is always effective to a certain extent, but by taking 1 *drachm of camphor* and 1 *drachm of chloral* and adding $\frac{1}{2}$ *ounce cocaine alkaloid* and 2 *drachms sulphuric ether*, you get an obtundent that will act every time. A five per cent. aqueous solution is beneficial for swellings, such as those caused from abscessed teeth, etc.

DR. WRIGHT: We have the imagination of the patient to deal with so much that we are apt to overrate the real value of a drug. I have sometimes simply used warm water for obtunding sensitive cavities, with beneficial results.

DR. RAWLS: How is pain prevented by obtundents used? Pain is a force, a result of contact. We cannot have pain without a disturbance of molecules. These water absorbing obtundents suck up the water in the tubuli and therefore prevent nerve irritation, and the sensation is not conveyed. The idea is that it conveys the evaporation or destruction of particles that the instrument would come in contact with and the sensation carried to a nerve centre. If a tooth is kept wet, no remedy will act, but if the dam is used it acts by evaporation. Owing to openings of the tubuli and the anastomosis, pressure is relieved, but there is no compensation for pressure just over the cornua, for there are no openings, so the pressure is not relieved and therefore we get more pain from that point, as in anterior and posterior cavities in bicuspid, where there is a thin laminae between the cavities to be cut away. The trouble is we do not get down to the basis and get at the minute principles of things.

DR. BETTY: I notice that the idea is the *modus operandi* of medicines. Cocaine fails because it produces its effect through anæmia. The fact that a bleached appearance and coldness of the part followed the application of cocaine brought this idea to

my mind. I deny that carbolic acid is an anæsthetic or an obtundent *per se*. It is an obtundent as far as it penetrates and causes coagulation. The use of alcohol causes death of the parts by rapid and complete abstraction of water from the dentine. We want to get to rock bottom, and as far as we go we must see, know and prove.

DR. RAWLS: The same results can be produced by either method, congestion or anæmia.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

DR. SCHILLING recommends inhalations of nitrate of amyl as an antidote to cocaine poisoning.

A piece of rock salt placed on the tip of the tongue and rubbed over the free margin of inflamed and sore gums, will harden them.

Thin slices of cork are said to make excellent cappings for exposed pulps. They are non-conductors of heat and cold, durable and pliable.

All objects made of rubber should be kept in a cool, damp place, at a constant temperature, and sheltered from light, heat and frost to preserve them.

The deposit of crystals in the fluid of phosphate of zinc is no detriment. It is caused by its being a trifle stronger than a saturated solution of the acid.

The easiest way to make decolorized tincture of iodine, is to add forty drops of a saturated solution of hyposulphite of soda to each fluid ounce of the iodine tincture.

DR. WILL TAFT recommends a coarse bur dipped in olive oil as the best instrument for dressing down gold fillings, the olive oil preventing clogging of the bur better than any animal oil.

DR. BOWMAN MACLEOD recommends the bi-daily cleansing of the teeth and gums in cases of pyorrhœa alveolaris with a tooth powder composed of flowers of sulphur and precipitated chalk.

DR. J. W. MAUKE recommends the fixing of the first piece of gold, in large molar or in artificial teeth cavities, with a little oxyphosphate cement mixed to about the consistency of cream.

Heat red or white gutta-percha upon a porcelain disk or slab until sufficiently soft to be kneaded full of zinc filings; this will make excellent temporary fillings.—*Archives of Dentistry*.

Absorbent cotton is not always the best material for carrying medicaments into roots as it is often difficult to remove from long narrow canals on account of its becoming packed; ordinary cotton is more easily removed.

In burring out a cavity less pain will be experienced by the patient if the dental engine is made to run rapidly and the bur touched to the decayed portion of the tooth nearest the pulp and drawn, by a quick movement, to the borders of the cavity.

DR. W. D. MILLER says that success in replantation of teeth comes through preserving the pericementum on the roots. Attachments will only be made when this is present and where it is lacking, or if the apex of the root be removed, resorption will result, beginning at that point.

DR. BÖDECKER cuts cavities in artificial teeth by the use of old steel burs kept moist with turpentine saturated with camphor. The bur is kept in a sharp condition and the operation facilitated by causing it to turn slowly a few times in one direction and then in the opposite.

DR. S. F. DUNCAN suggests that after wedging the teeth apart, preparatory to filling, to fill the cavity with oxyphosphate cement or gutta-percha, and extend it across the space between the teeth, so as to hold them firmly apart for a few days, till the soreness produced by the wedging has subsided, before filling with gold.

DR. H. H. FITCH in a very interesting paper on anæsthetics says that all anæsthetics are stimulants, and all stimulants, if pushed far enough, are anæsthetics. If this is true brandy or whisky should not be given before the administration of ether or chloroform, but after the operation that it might act as a stimulant in case of exhaustion.—*Western Dental Journal*.

DR. BOWMAN MACLEOD says that plaster-of-Paris mixed with ordinary water will not only expand on setting, but warp; thus

causing many imperfect models. To avoid this he advises mixing the plaster with water to which potash alum has been added, in the proportion of three or four ounces to the gallon, which will do away with the unequal expansion, and consequent warpage, of the plaster.

DR. J. J. BERRY says regarding wounds, that drainage tubes of whatever variety are of doubtful utility. Those of small calibre are manifestly injurious, large sizes are a source of irritation, and delay healing in deeper parts of the wound, although certain cases seem now to require them, recent advances indicate that in many varieties of wounds we shall soon dispense with all methods for securing drainage, in fact, there will be nothing to require it.

DR. C. H. WACHTER gives the following tests for a good cement: 1st. It should adhere firmly to the spatula when hardened; 2d. Should not stick to the fingers when being moulded into pellets; 3d. Should rebound when thrown on the floor (after having become nearly hard). In manipulating cements the use of an oil pad for moistening instruments will be of much assistance. Fillings should be varnished to prevent contact with moisture before hardening.—*Items of Interest.*

DR. A. H. FULLER after replantation of two central incisors, successfully employed a rubber band to hold them in place. This band consisted of a strip of rubber dam, one inch wide, fastened to the two bicuspid, on either side of the mouth, the same as for filling, but stretched so as to form a cup or trough when carried over the cutting edges of the incisors. Thus the force was not great and the teeth were permitted to adapt themselves to the inflamed conditions surrounding them.—*Archives of Dentistry.*

DR. H. C. MERIAM gives his method of filling cavities, difficult of access, as follows: A small piece of gutta-percha is softened by heat and pressed into the cavity after excavation without drying. This gives the impression of the cavity; remove and trim even with the outline of the cavity. This is then dipped in oil of cajeput, heated, the cavity dried, and the gutta-percha carried to place and pressed home. This makes an excellent filling for cavities under the gum where moisture cannot be excluded as the pressing in of the gutta-percha, coated with this soft mass, carries with it the moisture of the cavity and we get adhesion under water.

DR. GEORGE W. KEELY, of Oxford, Ohio, has done much for the profession in way of correcting irregularities of the teeth, and we are glad to learn of his late decision to answer calls and go to the assistance of any dentist who may have difficult cases on hand which cannot be sent to him. Through the medium of the OHIO JOURNAL OF DENTAL SCIENCE and numerous lectures, he has given many theories and methods that have been of great value to the profession at large, but this opens a better field for the advancement of knowledge among those who are not proficient in this art, and will do much to extend the practice of this grand division of dentistry.

DR. C. S. BALDWIN describes his new method of root crowning as follows: "After selecting a Logan crown, slightly shorter than would be used for setting without a ferrule; contour and prepare the inside of the root as for a Bonwill on any ordinary crown. Use Dr. Starr's reducers to shape the outside of the root. Take an impression and produce a die in zinc or Babbitt metal. Strike up a cover and ferrule of 22 carat gold, No. 30 gauge. Fit to the festoon of the gum, drill a hole from the lower side for the pin, leaving the ragged edge above. Fill the countersunk portion in the porcelain crown with oxyphosphate cement, adjust to the cap and this to the root. Unite the cover to the platinum pin in the crown with a small amount of soft solder, then fill the root with oxyphosphate and press firmly to place."

DR. GARRETT NEWKIRK says, regarding the opening of root canals, that if a root canal be so small that the most delicate jeweler's broach may not enter it, surely no instrument coarse enough to be driven by an engine can be trusted to follow in its path. A small bur may be used to give freer access to a canal, to give it a funnel-shaped opening where we can see it, but beyond that, as a rule, the canal should be left in its natural state. A fine, flexible, drawn-tempered jeweler's broach, delicately manipulated, will find any canal that can be found, and follow it to the end; cotton fibres sufficient for cleansing may be used with it in nearly all cases. With or without the cotton, enough eugenol, or some other agent, may be inserted to thoroughly disinfect. When the attempt is made to enlarge the canal beyond a certain point with drills and reamers, it is all guess-work. If the canal deviates from a straight line, as it frequently does, the drill may not follow.

Societies.

"Wherewith one may edify another."

MEETINGS.

Northern Ohio Dental Association, Cleveland, Tuesday, May 10, 1887.

Illinois State Dental Society, Jacksonville, Tuesday, May 10, 1887.

Mad River Valley Dental Society, Dayton, Ohio, Tuesday, May 17, 1887.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Pennsylvania State Dental Society, Glen Summit, (near Wilkesbarre, Pa.,) Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

IOWA STATE DENTAL SOCIETY.

THE twenty-fifth annual meeting of the Iowa State Dental Society will be held at Cedar Rapids, beginning the first Tuesday of May, continuing four days.

OFFICERS:—President, L. E. Rogers, Ottumwa; Vice Pres't, W. H. Baird, Burlington; Secretary, J. B. Monfort, Fairfield; Treasurer, J. S. Kulp, Muscatine.

A program has been prepared which cannot fail to interest every dentist. The clinical program is made up of twenty-four different operations; gold filling by hand pressure, hand mallet, automatic, electric, and pneumatic mallets, cement fillings, amal-

gam fillings, bridge-work and the various kinds of artificial crowns will be demonstrated. Treatment of pyorrhœa alveolaris.

Implantation of Teeth.—This operation will be performed by Prof. Eames, of St. Louis, giving dentists an opportunity to witness this new operation. Every dentist is invited.

J. B. MONFORT, D.D.S., *Secretary*.

ILLINOIS STATE DENTAL SOCIETY.

THE twenty-third annual meeting will be held at Jacksonville, beginning Tuesday, May 10, 1887, and continuing four days.

A full program of scientific work is arranged for, including a large and instructive clinic. Dr. Black will give short lectures on Micro-organisms with practical demonstrations of their culture. All dentists will be cordially welcomed.

J. W. WASSALL, *Secretary*.

208 DEARBORN AVENUE, CHICAGO.

ILLINOIS STATE DENTAL SOCIETY.

THE Executive Committee of the Illinois State Dental Society announces the following list of Reports and Essays for the next Annual Meeting, which will be held in Jacksonville, the second Tuesday of May.

1. Report of the Committee on Dental Science and Literature.—Dr. C. R. E. Koch, of Chicago, (Chairman); Dr. M. L. Hanaford, of Rockford; Dr. Louis Ottoby, of Chicago.

2. Report of the Committee on Dental Art and Inventions.—Dr. J. A. Swasey, of Chicago, (Chairman); Dr. W. T. Magill, of Rock Island; Dr. J. Frank Marriner, of Ottawa.

3. Essay, Dr. Norman J. Roberts, of Waukegan,—“Regulating Appliances.”

4. Essay, Dr. Homer Judd, of Alton,—“Retention of Pulpless Teeth in the Jaws.”

5. Essay, Dr. A. W. Harlan, of Chicago,—“Practical Therapeutics, with Notes on the Application of Special Drugs.”

6. Essay, Dr. L. C. Ingersoll, of Keokuk, Iowa,—“Medicinal Stimulants.”

7. Essay, Dr. Truman W. Brophy, of Chicago,—“Diagnosis of Oral Tumors.”

8. Essay, Dr. W. N. Morrison, of St. Louis, Mo.,—"Operative Dentistry as applied to Deciduous Teeth."

9. Essay, Dr. L. L. Davis, of Chicago,—"The Microscope and its Uses in Progressive Dentistry."

The culture of Micro-organisms will be continued by Drs. Black and Moody, and an Essay is expected from one of them, embracing the results of their investigations.

The Clinics under the supervision of Dr. C. F. Mattison, are expected to be unusually interesting.

In order that the Report of the Committee on Mechanical Art and Inventions may be a valuable feature of our meeting, all of the members who have anything new, coming under that head, are urged to send or report it to the Committee.

The Executive Committee have decided to issue this preliminary announcement in order to give the members of the Society an opportunity to prepare themselves to take part in the discussion of the subjects proposed.

E. J. GREEN,

W. H. TAGGART,

P. J. KESTER,

Executive Committee.

PEORIA, March 3, 1887.

MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

THE forty-third annual meeting was held in the lecture hall of the Ohio College of Dental Surgery, Cincinnati, March 2, 3, 4, 1887.

The officers were: President, E. G. Betty; 1st Vice-President, H. L. Moore; 2d Vice-President, J. R. Callahan; Corresponding Secretary, M. H. Fletcher; Recording Secretary, A. G. Rose; Treasurer, F. A. Hunter.

The programme was as follows: History of Mississippi Valley Association of Dental Surgeons, by E. G. Betty, D.D.S., Cincinnati. Nutrition, a Ten Minutes Sermon, by C. M. Wright, D.D.S., Cincinnati. Irregularities of the Teeth—a Case in Practice, by Geo. W. Keely, D.D.S., Oxford, O. New Remedies, by

A. W. Harlan, M.D., D.D.S., Chicago. Ways and Means in Dentistry, by W. Storer How, D.D.S., Philadelphia. The Relation of Dentistry and Medicine, by W. A. Dun, M.D., M.R.C.S., Cincinnati. Some of these papers, with the discussions, will be found in this number of the JOURNAL.

The following were elected to membership: R. E. Wyatt, Lockland; Levitt Custer, Westerville; C. E. Miles, Gallipolis; Grant Mollyneaux, Cincinnati.

Dr. Betty was tendered the thanks of the society for his history, and a permanent committee on history was appointed, consisting of E. G. Betty, *Chairman*, Cincinnati; J. Taft, Cincinnati, and H. J. McKellops, St. Louis. Any one having information, records, papers or anything bearing upon the history of the association is requested to communicate with the committee. It is the intention, we believe, to have as complete a history as possible ready for the fiftieth anniversary of "the oldest" dental society.

Resolutions of respect were passed to the memories of the deceased members, E. Osmond and J. P. Ulrey.

The officers elected for the ensuing year are: *President*, A. W. Harlan, Chicago; *First Vice-President*, W. N. Morrison, St. Louis; *Second Vice-President*, M. H. Fletcher, Cincinnati; *Corresponding Secretary*, F. W. Sage, Cincinnati; *Recording Secretary*, A. G. Rose, Cincinnati; *Treasurer*, F. A. Hunter, Cincinnati; *Executive Committee*, C. M. Wright, Cincinnati; H. J. McKellops, St. Louis; J. R. Callahan, Hillsboro', O. *Publication Committee*, E. G. Betty, Cincinnati; W. H. Sillito, Xenia; A. G. Rose, Cincinnati. *Membership Committee*, H. L. Moore, Cincinnati; M. Stout, Chicago; A. O. Rawls, Lexington, Ky. *Committee on Ethics*, O. N. Heise, Cincinnati; C. J. Keely, Hamilton, O.; Wm. Van Antwerp, Mt. Sterling, Ky.

The association offers a prize of \$25 in gold for the best essay on "The Causes of Deposits on the Teeth, and methods of removing the same." Competition open to the world. The essays to be sent to the Chairman of the Executive Committee, Dr. C. M. Wright, 266 W. 7th Street, Cincinnati, Ohio, on or before February 1, 1888, and read by the author at the meeting on the first Wednesday in March, 1888. The mss. should be accompanied by the name and address of the author.

THE OHIO COLLEGE OF DENTAL SURGERY.

THE forty-first annual commencement took place in College Hall, Cincinnati, Wednesday, March 2, 1887. The address was delivered by H. P. Lloyd, Esq., and will be found upon another page of this issue. The class oration was by H. C. Matlack, of Kentucky. L. E. Custer took the first prize for best general examination and the third also, for best specimen of artificial dentistry. The second prize (for best operative work) was taken by C. E. Miles. E. J. McCartney and G. H. Doulton received honorable mention. Number of matriculates 96. There were 29 graduates and four honorary degrees conferred, as follows:

GRADUATES—A. W. Black, Indiana; L. A. Brown, Minnesota; L. E. Custer, Ohio; L. E. Day, Ohio; G. H. Doulton, California; W. F. Edmonds, Kentucky; J. S. Emery, Ohio; J. W. Fisher, Kentucky; C. H. Green, Jr., Indiana; E. S. Griffis, Ohio; M. A. Hadcock, Canada; B. C. Hinkley, Ohio; T. L. Johnson, Ohio; E. S. Keefer, Ohio; Miss M. L. Leininger, Ohio; C. H. Martin, Ohio; E. S. Mathews, England; H. C. Matlack, Kentucky; E. J. McCartney, Pennsylvania; B. A. McGee, Indiana; C. E. Miles, Ohio; A. H. Millman, Ohio; B. A. Mosbey, Indiana; W. W. Reed, Ohio; F. L. Rice, Ohio; J. M. Rutherford, Ohio; E. J. Schwartz, Ohio; James Silcott, Ohio; J. J. Werner, Switzerland.

HONORARY—Wilhelm Herbst, Germany; H. H. Harrison, Ohio; J. Rollo Knapp, Louisiana; William Knight, M. D., Ohio.

OHIO DENTAL COLLEGE ASSOCIATION.

THIS society of the stockholders met in the lecture room of the College, March 2, 1887, and, after re-electing the trustees whose terms had expired, adjourned without day. As we understand it, hereafter the stockholders will meet to elect trustees and each share of stock may be voted by proxy or in person. This abrogates the constitution and by-laws under which the stockholders and trustees have been acting and they will now be governed by the statutes of the State.

INDIANA DENTAL COLLEGE.

THE eighth annual commencement was held in the lecture room of the college, Indianapolis, March 2, 1887. The address was delivered by Prof. John H. Oliver, M. D.

Degrees were conferred upon 14 graduates:—Jas. W. Bates, Michigan; L. G. Bell, Germany; John H. Bird, Michigan; S. N. Blackledge, Indiana; Jno. E. Carmon, Illinois; P. W. Earhart, Indiana; W. N. Easton, Michigan; Jno. H. Evans, Indiana; T. J. Hood, Kentucky; Milton Lamb, Indiana; J. J. Lickly, Michigan; Geo. Marbach, Germany; S. Oliver, Pennsylvania; Charles Woelz, Indiana.

Our Aftermath.

THE THIRD SCOURGE OF HUMANITY is what Erlenmeyer calls cocaine, alcohol and Morphine being the other two.

WOMEN, says the *Brit. Journ. of Dent. Science*, are to be admitted to the classes of the National Dental Hospital, London, as an experiment.

THE ELECTRO-MAGNETIC MALLET: Its Construction, Physics, and its Use, is the title of an illustrated article in the *Dental Record* (London) for December, 1886, by Thomas Rounne, L.D.S., Eng., with working drawings to enable any one with the necessary patience and ingenuity to make one.

THEY MUST GO.—So says our Southern friend, Dr. Catching, as follows: "The old foggy idea of separate and distinct dental colleges and the degree of D.D.S. must go. They do not fit this age of progress and enlightenment. They are not capable of comprehending the situation. The *Southern Dental Journal* plants itself squarely against them, and will urge a complete medical education and a course in an oral infirmary of the very highest type."

TO CREATE—a doctor.—The *Lyon Medical* says that Professor Malgaigne is much dreaded by the students on account of his irony at examination. One day he was discussing some obscure points in a student's thesis, and the candidate replied almost at random. "Now, sir," exclaimed the irate examiner, "can you tell me what to create means?" "Create?" stammered the youth; "it means to make something of nothing." "That's good, sir," said Malgaigne; "we will now make you a doctor."

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

MAY 1, 1887.

No. 5.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

A CASE IN PRACTICE.

BY GEORGE W. KEELY, D.D.S., OXFORD, OHIO.

Too frequently the dentist who has but a superficial idea of anticipating the real cause of irregularity in given cases, will extract both the temporary and permanent teeth and expect to see all the permanent ones fall into line; to his mortification the reverse is the result; notably, the premature removal of the *temporary cuspids* and *molars* will *surely* cause a *crowded* condition of the anterior permanent ones. The exception to this I have never seen.

The case here illustrated is that of a girl aged 17 years, when she came to me in 1870. Both the father and mother had generous, normal arches, and there was no inherited irregularity in either family. When her superior permanent cuspids were partly erupted they appeared somewhat prominent, and as her dentist lost sight of the fact that the arches were enlarging, and that her superior incisors were not occluding over the inferior ones, he extracted the first bicuspids, vainly hoping to improve the case, but unfortunately for the patient, the reverse was the result, as shown in the following cut.

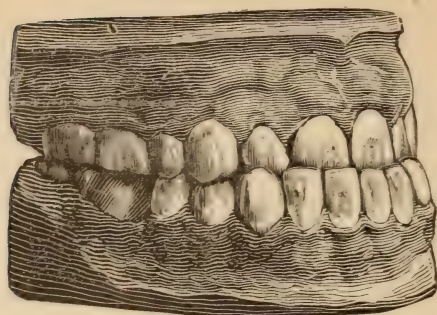


FIG. 1.

The cuspids fell back rapidly and the incisors moved inside the inferior ones, greatly marring the expression of a very pretty face, giving her the appearance of one ten years older. The proper treatment of this case was to expand the bicuspid, a very simple operation for one of her age.

This can be done with a vulcanite plate fitted snugly to the roof of the mouth and close to the teeth, made to bear hard on the bicuspid, nearly to their cutting edges. When first put in place, if pressed up firmly for a few minutes, it will remain. The next day drill holes in the plate opposite the bicuspid and adjust pins made of sea-tangle tent, wedge-wood or compressed pine. Remove the plate daily, cleanse it well and put in new pins. The patient should be required to cleanse the teeth, this must never be neglected. Often one plate is all that is required unless the teeth are to be moved a considerable distance, in such cases a second or third plate may be necessary. When the teeth are in position a retaining plate is made to hold them until they become firm. If the cusps of all the bicuspid antagonize naturally, the occlusion will carry the lower ones out at the same time, but care must be taken, watch your case, and be sure the rapid movement of the superior does not jump the bite of the inferior.

The following cut, Fig. 2, shows the apparatus used in this case, but I rarely use it now, having almost wholly abandoned the use of the rubber band in front of teeth to be moved out of lock. When a perfect impression is secured, as also a model, the trial plate is fitted to the roof of the mouth and over the posterior teeth, adjusted, and a bite taken, raising the teeth apart barely enough to allow the refractory teeth to be moved to place. It is necessary to have the bite correct that the patient may have a surface for masticating purposes. A lead band should be fitted to

the labial surfaces of the teeth to be moved, about as thick as the space required to draw the teeth to position, and a thin wax band on it with a button opposite each tooth. It is well to have the plate cover the palatine surfaces of the teeth to be moved, that either pins or wedges may be used at the same time the ligatures are operated.

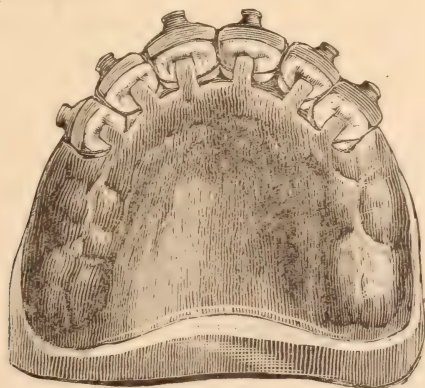


FIG. 2.

It requires considerable skill to make and adjust a plate of this kind to remain firm in place, but when accomplished you are well prepared to begin work. Slots may be cut in the plate, opposite the teeth, for the admission of wedges, or holes for pins. Ligatures may be cut from rubber tubing, put over the teeth and drawn to the buttons, thus you will have the wedges and ligatures operating at the same time. It required twenty-eight days to bring the teeth to their new position, as shown in

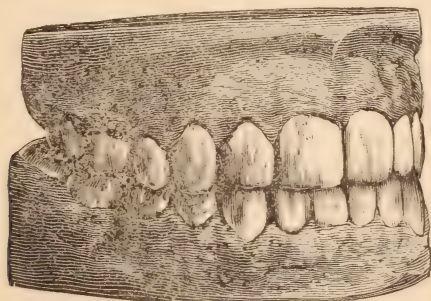


FIG. 3.

The improvement in expression, contour, and enunciation was very pronounced. In such cases it is always necessary for a

retaining plate to be worn ; the length of time, the operator must determine ; as a rule, the older the patient the longer it must be retained.

As before stated, I rarely ever use a rubber band—it is unsightly as well as uncomfortable. With the same plate, minus the band, we can operate from the palatine surface with wedges, pins, or a spring made of piano-wire as recommended by Dr. Coffin of London, or as improved by Dr. Talbot of Chicago. It is absolutely necessary that such plates fit accurately, be firm and comfortable. When operating for school children, we aim to insert the plate Friday evening or Saturday morning, that they may get accustomed to it before going to school the following Monday.

By using wedges or pins, we get positive force, then rest for a time, while with the rubber ligature we have constant force, and we are liable to have trouble if the case is not watched closely. It is less trouble to make an apparatus of this kind than the gold band, attached to the posterior teeth and is less unsightly ; can be removed and replaced readily. Another advantage, there is no antagonism from the inferior teeth to interfere with the movement of the refractory teeth to place.

Every operator has some tricks of his own which are suggested in practice and valuable in given cases. Almost every case has some peculiarities, and the operator's inventive genius must be equal to the emergency.

The same good result can be accomplished in various ways, and he who imagines his particular method of operating to be just the thing and the only means of success and that *he knows it all*, is sure to come to grief when he comes in contact with others who are operating in the same field. We get many letters describing cases of irregularity, and are requested to send an apparatus that will bring the teeth into line, but it is rather rare that a *stamp* is sent for return postage. We always promptly answer such letters for we want every dentist in the land to be interested in the causes and the management of irregularities of the teeth.

CASTS AND DIES—SWAGING PLATES.

BY L. P. HASKELL, D.D.S., CHICAGO.

What should be done with the plaster cast to facilitate its removal from the mould? Flare the sides, as it will remove itself, and mar the mould less than if lifted out.

In case of deep undercuts, how secure a perfect die? Of course in upper casts a Hawes' flask can be used, but a simple method is to make a core of plaster and asbestos, equal parts. After the cast is prepared for moulding and varnished, set it upon a flat surface and oiling the surface of the cast where undercut, apply the material, about one-quarter of an inch thick at the base, and extending it to the margin of the ridge, as far around as the undercut extends. When hard, remove and dry *thoroughly*, moulding both together and replacing the core in the mould, pour the metal. In a lower cast no other method is available, but it will need to be made in two pieces, as one could not be removed from the cast without breaking.

Why use oiled sand instead of moistening with water? When once prepared it can be used many times, saving much time and often annoyance.

Why use Babbitt metal in preference to zinc or other metals? It is the only alloy of metals that has all the requisites of a dental die.

What are these requisites? Non-shrinkage; hardness; tenacity; smoothness, and melting at a low temperature.

What formula has been proved always reliable? See page 36 January number of this JOURNAL.

How long has this metal been used by any one exclusively, with entirely satisfactory results? Has it been generally known, and why do not the text books and teachers recognize its value and advocate its use? It has been used by some exclusively for thirty-seven years, and the attention of the profession has been directed to it for thirty years, through the journals and in dental associations. The latter clause of the inquiry I cannot answer.

What should be used for a counter to the Babbitt metal die? See page 36 of the January number of this JOURNAL.

Why not make the counter as hard as the die? Because one would yield no more to pressure than the other, and the plate being softer would be "ground between the upper and the nether mill-stone," torn or made so thin over prominences that it would be greatly injured. Then there is no possible necessity for it. It is suggested in one of the text books that it would be necessary in the case of a plate alloyed with platina. Platina should never be used as an alloy with gold except in clasp metal. If a stiff plate is needed double it partially around weak points.

What form of moulding flask is the best? An iron ring four to five inches in diameter and three inches deep, to allow plenty of room for packing the sand.

Describe method of moulding. So set the cast, which should have a flat surface, that it will lie steady upon a smooth, solid foundation. There is no need of sifting the sand except on the surface of the cast. Pack solid around the sides that the sand may not tend to drop from the ring. Fill the ring full that when it is set for casting the weight of metal will not, as in some cases, break them. Now raise the flask and, usually, the cast will drop out. If it does not, then gently jar the ring or flask on the edge of the moulding box. Do not over-heat the metal, and do not pour it very hot or it will burn the oil unnecessarily. Pour the metal into the corner as it will mar the surface less than elsewhere or do no harm. Do not cool by plunging into water as it tends to make the cast brittle. When cool, coat with whiting and sink into the sand half its depth; place a small ring around it and pour the lead and tin, having stirred until it begins to thicken. Do not fill the ring full, but leave a space that the ring can be taken hold of with pliers, to plunge into water. There is no necessity for swaging in a flask.

What is the process of swaging a plate? The dies should be oiled for the purpose of preventing as far as possible the adhesion of base metal to the plate. The plate should always be cut with the grain running crosswise of the die. Anneal and drop into dilute sulphuric acid, thus leaving the surface bright so that after swaging it can be readily seen if any metal from the dies has adhered, and if so wipe off. It cannot be removed by boiling in sulphuric acid as advised by some, as may readily be understood from the fact that an acid dish of lead is the best that can be used, and will last for years. It is readily made of sheet lead

formed over a flat bottomed melting ladle. If it is a full plate use the mallet to bring it into the palate; then, with lower bending pliers and mallet, form it over the ridge; cut it in front to the margin of the ridge, and allow it to lap, to be soldered after swaging, saving much time, and the plate will not be in a strained and springy condition, besides being the stronger at a weak point, where not only rubber, but plates sometimes break from undue strain. Swage cautiously, examining from time to time, to see that it is coming into shape properly, and if folding on the edges, remedy before it proceeds too far. Anneal according to circumstances. If it is a soft, 20 karat, plate and flat case, twice is enough. If a stiff plate and deep, irregular ridge, anneal oftener.

What are the most difficult cases to swage? The most difficult cases to swage are partial lowers. These should be swaged in two pieces for the reasons that it can be done more easily, and that they need to be double back of the anterior teeth; so cut each pattern to extend a quarter of an inch past the last anterior tooth, as there is often, in these cases, a double curve to swage over, there is considerable coaxing to be done with bending pliers, burnisher and mallet. Swage each fully, and then swage together; place borax between, clamp with wire clamps, and laying the solder upon the overlapping margins, flow it fully between. Always allow the plate in these cases to extend up on the necks of the teeth, affording a better support, less irritation, and as the plate often needs to be trimmed to make room for the pressure, it will be too narrow if this is not done.

FOUNDING OF THE OHIO COLLEGE OF DENTAL SURGERY.

BY A. BERRY, D.D.S., CINCINNATI, O.

SUPPOSING the time might come, after the fathers had passed away, when an authoritative statement might be proper concerning the origin of the Ohio College of Dental Surgery, the writer of this interviewed Dr. Rogers on the subject a few years ago.

Dr. Rogers said "Drs. Taylor and Cook came to my office to talk with me about getting up a dental college. We talked the

matter over, and prepared a bill for a charter to be granted by the legislature. Dr. Cook took it to Columbus and got it through the lower House. When the time arrived for it to come up in the Senate I went to Columbus to see it through. I met Dr. Allen, who had been there two days before me. He was sent by the other dentists of Cincinnati to oppose the bill. They had not been consulted as to the college, and their objections to this bill was that it did not provide for a board of trustees, but left the school under the control of the professors. Dr. Allen and I called on the chairman of the committee having charge of the bill, and, after hearing our statements, he said, 'Gentlemen, agree among yourselves and let me know.'

Dr. Allen is a gentleman, and we had no difficulty in arranging the matter. We agreed to have a board of trustees, the members of which we selected. We reported to the chairman, who said to us, 'Gentlemen you can go home; I will see that the bill is passed.' And so the charter was obtained."

The act was passed January 21, 1845. The trustees were B. P. Aydelott, D.D., Robert Buchanan, Israel M. Dodge, M.D., William Johnson, T. P. Cornell and Calvin Fletcher all of Cincinnati, S. P. Hildreth, M.D., of Marietta, G. S. S. Hempstead, M.D., of Portsmouth, and Samuel Martin, M.D., of Xenia.

The college was opened in the autumn of 1845 in a building previously occupied by a school for females, which, remodeled, furnished convenient rooms for dissecting, lectures, and laboratory, and was subsequently purchased by the stockholders of the college, who erected the present edifice on its site.

The teachers were: Jesse W. Cook, M.D., D.D.S., Professor of Anatomy and Physiology. James Taylor, D.D.S., Professor of Practical Dentistry and Pharmacy. Melancthon Rogers, M.D., D.D.S., Professor of Pathology and Therapeutics. Jesse P. Judkins, M.D., Demonstrator of Anatomy. Elijah Slack, M.D., Lecturer on Chemistry.

Dr. Taylor was undoubtedly the prime mover in the establishment of the college, while Drs. Cook and Rogers heartily cooperated with him.

MICHIGAN STATE DENTAL SOCIETY.

THIRTY-SECOND ANNUAL MEETING, ANN ARBOR, MARCH 22, 23, 24, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D D.S.]

ONE HOUR'S TALK ON IMPRESSIONS.

BY PROF. W. H. DORRANCE.

He said: Impressions are of so much importance that the operator should give this his strict attention. It is sometimes difficult to select a material when we come to consider the mouth, with or without teeth, the tissues hard or soft, and the surface of the jaws irregular. It is a matter of some moment to choose rightly the material with which to take the impression. More teeth are saved now by regulating than formerly. The arch is now expanded and the teeth are drawn into position, while a few years ago it was not so.

The first thing of importance in mounting a plate is a good impression, and the first thing necessary in the taking of impressions is a properly shaped tray, one so adapted to the mouth that the material will get the full impression. If the tray is too large or ill proportioned the lips and mucous membrane to the gums pull out of shape and the mouth is distorted, so care should be exercised in this respect. Nearly all dentists have been using plaster for impressions but I will venture to say that, perhaps one out of ten impressions will be fair and the rest good for nothing; or to go farther I will say that not more than one in twenty is good. It is difficult to obtain a correct impression in plaster on account of the inequality of the tissues. Yet plaster is a good material when handled properly. Plaster (hydrated calcium) is said to be free from water of crystallization. It is calcined by heat not exceeding 500° F. and when it is mixed with water it crystallizes again, each molecule of plaster appropriates just two equivalents of water and all the additional water is held mechanically as a sponge holds it. If you use just enough water the plaster will be stronger for it. The great essential is the quantity of plaster and just enough water to satisfy it. The

proper way to mix it is to put the water into a bowl, adding some material to facilitate setting, and then sift the plaster in carefully until saturation occurs, when it has taken up just the right amount of water and the rest may be poured off. Beating the plaster is objectionable for it weakens the plaster and lets in air. Use common salt (sodium chloride), or better potassium sulphate, to set the plaster quickly. There is less change in the model where the plaster is set with potassium sulphate than with any other material.

With what shall we separate the impressions?

I suppose more dentists use oils, shellac, soap and soap-stone than any thing else. Let these parties try just water and they will be pleased with the result. If oil is used, water and oil do not mix and globules stand on the surface making the mould defective. Simply saturate the face of the impression in water before pouring, then, when the plaster sets, put the case into boiling water and it will separate easily. If you take an impression in plaster where there are teeth you may find it difficult to remove the impression from the mouth. How can we avoid this? First, by using a tray as near the shape of the mouth as possible; and second, see that the teeth touch the tray on either side; third, support the plaster in the tray by the use of wax so built up as to not quite touch the palatine portion of the mouth but high enough on the sides that the impression of the teeth may be got in the wax while the more important part of the impression is in plaster. In this way it breaks away easily and the impression is not impaired. Should the impression leave the tray it can easily be removed or broken away by an outer motion with the fingers. A caution is necessary here. That of making use of anything to retain the plaster but a clean and dry tray. It is then easy to replace the impression in the tray in case it should be broken. When the impression is to be removed you should have two weak points, the cutting edge of the teeth and centre of the arch. If the impression breaks and you cannot find the pieces, take some wax or compound and just fill the space. An impression taken in this way separates readily from the model. In lower cases be careful about the tray, do not let the edges strike the gum. If you use two trays take the impression of one side and then the other; or, take it in three parts, using the tray for each side and the fingers for the impression in front.

Modelling compounds. Some are good and others are not. They are made of a fossil gum with some material to reduce the melting point and hardness. It is principally gum kaurie with stearine and French chalk added. The compound manufactured by Hood & Reynolds softens at a low temperature and is quite hard when cool, but it takes a long time to set and it is somewhat elastic which is another fault. And again, it does not return to its original shape when it hardens. That made by the S. S. White Company does not retain its shape. Justi's does not crawl but has enough elasticity and is very good. A great many dentists not knowing these things have given up the modeling compound without experimenting farther. It is pleasanter for the patient than plaster and the general results are better. The best compound is made by Dr. Balsam of Sardis, England. It is hard, unchangeable in shape and sets at 120° F. It does not change shape in the least.

To get a good impression. There are several serious faults in the taking of impressions. One in not having the tray properly shaped, or, if an excess of modelling compound is used the mass overhangs and drops down; the weight of the mass drawing the compound from the arch and the impression of the mouth is not correct on account of the material not being properly supported; and also if too much material is used the mouth is distorted. Modelling compound softens at from 140° to 150° F. in water. It moulds well, and I have only a few hints to make about modelling compound impressions.

You need at least one quart of water. The water need not be boiling but hot enough to readily soften the compound. Always remove the water from the blaze before heating the compound. In cold weather the compound cools in the air and must be used expeditiously. In warm weather you can let it chill a little and often get better results. What we need first is a tray that will approximate the shape of the mouth. If you have a case, for instance as in regulating, where the front teeth protrude, do not try to take too much of the impression of the teeth. Get the under surface and do not mind the outside. In taking impressions where the teeth protrude how shall we apply the pressure? Will it be up? If so what is the result? The mass will slide away from the surface and while we may have enough compound the ruga lines are drawn as though the fingers had run

through the impression. But if you place the tray in the mouth and bring the back edge up first then bring the force to bear obliquely toward the upper front portion of the arch, at the same time bringing the front edge of the tray up over the teeth, and holding the back edge firmly in place, the result will almost always be a good one. The pressure then must be perpendicular to the center of the curve. Again, if we need two impressions for the front of the arch the first should be from the tray and the outside from pressing the compound against the teeth with the fingers. In edentulous cases the tray should be as near the size as well as the shape of the mouth as possible. The soft mucous membrane over the muscles must not be distorted. If the gums are flabby it is not of so much consequence as they will be pushed out of place by the plate anyway, and if they are displaced by the compound it does not matter. It is well, however, to carve out a little in such places and make plenty of room. Before pouring the impression it should be rinsed with water and the remaining water then blown out. This is not only to get rid of the solutions but so as not to weaken the plaster by furnishing an over supply of water to the already saturated plaster. Where an excess of water has been present you have a friable mass that easily peels off or breaks down.

As modeling compound is not permeated by odors, as is wax, it can be used over and over again and is not unclean. After a certain amount of use the compound seems to improve rather than deteriorate. When this material is used the impression about the necks of the teeth may be drawn in removing from the mouth, but with the aid of an instrument you can press it back to its place. You will find that where there is a space and the teeth are inclined, the compound will be drawn out of shape. This could be pressed back, but it is just as well to carve it after the impression hardens as you have the outline of the natural shape as well as the abnormal and you can see just where to carve. Where there are teeth in the lower jaw whose crowns approach each other from opposite sides and the space below is much wider than above, you cannot get a good impression with any plastic material or a good one by taking it singly. The impression in such cases should be taken in two and sometimes in three sections.

Where shall we use wax? On account of the slight shrink-

age it is good many times as where the tissues are flabby. You can make your own trays to fit particular mouths, out of block tin, swaged or burnished over a model of fusible metal. After the tin is burnished down to the proper shape, solder on a rim and you have a tray that will fit the arch. This can be accomplished in a few minutes. Trays can also be made out of rubber, gutta-percha and such material, but these can be used only for plaster.

Impressions of roots for crowning, etc. The best material to use for this purpose is Dr. Melotte's Moldine, composed of clay moistened with glycerine. A fusible metal composed of 12 parts zinc, 10 parts lead, and 16 parts bismuth, melts at 212° F. and can safely be poured into the impression. Here you get a metal model that is hard enough to stand the swaging of gold or other metal over, and it is a great saving of time.

DISCUSSION.

DR. C. H. HARROUN, Toledo, O.: I can recommend Dr. Melotte's Moldine as I have used it and know what it is. In taking impressions you must wipe the tooth dry for moisture will make the moldine sticky and then it will not do.

DR. DORRANCE: After there is a sufficient amount, not too much, in the tray, put a little soap-stone on the surface and take the impression. You need not make the counter die of this same metal as you can drive the die into lead and get your counter. If you do make the counter die of this metal you should cool the model and pour at as low a temperature as possible.

DR. DOUGLASS: In using modelling compound I chill the impression before removing it from the mouth. Take a little snow or ice and place in the mouth on the tray first on one side and then on the other. Do not get the compound too cool if there are teeth in the mouth or you will have difficulty in removing it. I want to ask one question. How do you take an impression for a lower set where the teeth have been out for a long time, the gums receded, the border turned in and flabby?

DR. DORRANCE: In regard to such a case where there is a flap of gum, I would cut it away or not try to fit it. Leave a slight space so there will be no pressure.

DR. C. H. LAND, Detroit: This seems to be a decided argument for compound and against plaster. I am convinced that

there is only one substance suitable for impressions and that is plaster; because it is the only substance with which you can take undercuts. If we want a perfect impression we must study the tissues. In using plaster put but little in and close the cup up at the back and the impression will be good. If the teeth are loose it makes no difference; the impression is just the same. I have little faith in wax and modelling compound, and above all things I would not use it but once. There is no substance but mixes with hydrocarbons and this compound will thus take up odors. I know hundreds of dentists who use only plaster. The majority have decided in favor of plaster.

DR. J. A. ROBINSON, Jackson: The lecturer told one or two truths that need corroborating. The fact of introducing the tray after it had been made one-sixteenth of an inch larger than the jaw all around, and getting the impression of the back part of the mouth first. This gets the air out for the upper impression. When you take a lower impression, put the anterior part of the tray down first which gets the lips and muscles out of the way and also forces out all confined air. I began with wax and plaster fifty years ago, but have seen no reason to change from plaster to modelling compound.

DR. DORRANCE: I am not here as an apostle of modelling compound as against plaster, but rather to encourage the use of the compound.

DR. SCOTT: I regard the subject an important one and think there has not been enough said about the combination of wax and plaster. Take the wax and get a rough impression, then carve it away slightly and use a thin coating of plaster over this to get a good impression. [By drawings on the blackboard he humorously illustrated the absurdity of using modelling compound more than once.]

DR. TAFT: I would like to emphasize the whole matter of cleanliness in taking impressions. It does seem to me a matter that ought to be considered and receive attention. In taking impressions where the operator is not careful in handling the mouth and where care is not taken, the difficulties are increased. Some patients keep swallowing and there is a constant moving of the mouth and especially if no attempt has been made to overcome these results. First, you should get the patient as quiet as possible. The appliances should all be most cleanly. The

thought of the dentist reusing modeling compound or wax, is repulsive to the patient, and if they found it out they would not come to that office again. You must have everything in the best condition in order to get the best results. Do not be too hasty in the operation or use too much material, so that it runs over into the mouth. There should be no escape of saliva from the mouth. A clean napkin should be spread over the patient and many little things of this kind attended to. In this way and only this can the operation be done well.

TOOTH CROWNS AND PORCELAIN ENAMEL FACINGS.

DR. C. H. LAND showed a record of the amount of work he had done since the last annual meeting, and said he would leave it to the association to draw its own conclusions. He reported the adjusting of thirty-three enamel coats, twenty-three incisors, eight molars, two canines, sixty devitalized teeth, seven centrals, nineteen bicuspid and twelve molars, making a total of one hundred and thirty-one. Of these he removed three of the incisors, and three bicuspid of the devitalized teeth, and three of the other bicuspid. In these cases he re-adjusted entire new crowns and did not lose one of those applied. He said: In the work I used the How method and in no case did I drive the band on the tooth. I do not impinge on the tissues if it is possible to avoid it. A defect in all methods of crowning is cutting the root down so close. I leave considerable tooth substance above the gum. To prevent having to crowd the band on the root below the gum I advise the application of some astringent until the gum is down out of the way, then apply the band. I take a tooth-facing with cross pins and back this up; then I make a straight platinum telescope, drawing the metal as close to the neck of the tooth as possible. Then draw this closer and cut out at the top so as not to impinge on the gums, (this is in cases where the teeth protrude out of the gum,) get your bite and articulation and proceed to finish the crown. Then put the telescope on the root and pack amalgam down hard. The next day you can remove the band from the amalgam filling and put the enamel crown on, and it goes over the root and all and fits just where the band was in the first place. It is more difficult, however, to adjust porcelain to a living tooth on account of the difficulty in getting at it; but preserve the

pulp in a tooth if possible. He here cited a case he had recently finished where a portion of the central incisor had been broken away. He cut off the anterior portion of the incisor and burnished platinum over the parts cut off; that gave the exact shape of the cavity. Through this he passed wire about twice the size of pin wire, replaced the lining in the cavity, filled the tooth with wax and let the patient bite on it. That gave the correct articulation. The body was next put on, carved to the exact shape and baked. When the porcelain piece was finished he lined the cavity with thin oxyphosphate and pressed the enamel section into place. He estimated that the cement between the edges of the platinum backing and the tooth was not more than $\frac{1}{600}$ of an inch in thickness. He next showed an illustration of a canine he had made entirely of body.

The next case exhibited was one where the enamel section had been fitted to the cavity without the use of pins. He said the walls of the cavity should be strong and abrupt. After taking a piece of platinum as usual, and inserting it in the cavity, burnish only partially, then take a small roll of cotton, swage it in and with a small burnisher and use of the mallet get to all parts of the tooth. Now remove the platinum, cut a hole through the button and solder in a raised piece making suction in the bottom of the platinum backing. Bake the enamel on and burnish the edge of the platinum over. Set the section with cement and it is complete. To hide the dark streak, should one exist, take a little bur and cut the edge of the platinum backing off, where it will show. A word here about applying the body. Do not put on too much at first for it balls up. The first layer should be baked thin and the case baked again when a thicker coating is applied. I do not think I am going to do away with the use of gold entirely, but for large cavities and suitable cases I do think this is the best method and hope the profession will bear me out in the statement. It is not difficult work for any one that has the necessary appliances, can do it. I take pride in the operations because they lessen the pain for the patient and this makes a much more natural filling than any other material. Dr. Moore has had a case where the corner of a central incisor was broken away and he replaced it with a porcelain section, and I am sure the association would like to hear from him.

DR. MOORE illustrated on the blackboard the shape of the

cavity and how the operation was done. The process being the same as that described above by Dr. Land.

DISCUSSION.

DR. LAND: The great majority of dentists are not artists, and our manufacturers are at fault too in making the artificial teeth so regular and the incisor blocks on either side just alike. The natural teeth are not uniform in shape and by baking on the enamel yourself you can make them as irregular as you choose.

DR. HARROUN: There is one point in regard to the use of cement in this connection; will it be durable? I have for years had under my observation a porcelain section inserted by a New York dentist and it remains perfect to-day. I think if the cement does not hold it is because it is not mixed right. When mixing rub it thoroughly until it becomes sticky and then apply to the cavity and leave it. Do not keep working until the crystals become broken.

DR. DORRANCE: I do not think the cement washes out but rather wears away. Sometimes there is not enough care taken in getting it to the cervical border and failures occur here. I have a case similar to that of Dr. Moore's. About twenty months ago I put a corner of porcelain on a live tooth. The patient was about twenty-two years of age, nervous, the tooth pulp was large and the cavity extremely sensitive. I took a central incisor plate tooth, ground with the disk until no undercut remained. Shaped the tooth up with body, drilled a hole in the porcelain piece and a corresponding one in the tooth, fused a platinum pin into the piece and set with Dawson's cement. From the front the piece was not observable, and the joint to-day is just as perfect as when the operation was completed.

DR. MOORE: I would like to make one suggestion and that is to put gutta-percha in for a lining at the edges and it will keep the cement from dissolving out.

SALIVARY ANALYSIS.

DR. D. C. VAUGHAN read a paper. He said, first, let us inquire what the saliva is. We usually say that it is one of the digestive secretions. But what is a secretion? A secretion is a chemical product which results from the reaction of the blood upon the one hand and the glands upon the other. If we examine the

glands we find them to be cellular in structure. They are also found to contain two kinds of matter; one a small bit of smooth matter, or protoplasm which never changes or is not destroyed by the saliva, and remains in the cell. The second, we find to be a white matter which fills up the cell and is called paraplasm.

If an electric current is passed through this matter it breaks down and goes into solution, or if we stimulate one of the nerves supplying the glands the same thing results, and if it is continued, all of the paraplasm disappears and nothing but the protoplasm remains. The protoplasm withdraws from the blood certain nutritive matter and converts it into paraplasm and saliva is the result. It is not the case that liquid saliva exists in a free form in the gland, as ptyaline, it exists in the material form, but stimulation breaks this down into salivary products. The richness of the saliva depends upon the period of rest of the glands. It requires time to build up paraplasm, as is seen in the animal at rest for ten or twelve hours. The sight or smell of food may cause a flow of saliva. The glands are very active then. When in contact with starch the specific gravity is high. If the flow is continued it gets poorer until nothing but a fluid transudate of blood is excreted. The same thing occurs in paralytic saliva. Hygienic rules are first, the glands should only be exercised at intervals and second, they should have rest to rebuild. During the activity of a gland carbonic acid gas is formed in the gland which shows that there is a chemical action going on within. Saliva is composed of organic and inorganic substances of which we find alkaline chlorides, phosphates and sulphates and calcium bicarbonate. The most important of the organic constituents is ptyalin, while an albuminous substance coagulable by heat is present. From the saliva we often get a deposit commonly known as tartar. If people better understood that the deposition of tartar about the teeth is a serious thing, the dentist would be consulted more frequently. My advice would be for them to visit some capable, honest dentist once or twice a year and have the teeth cleaned and thoroughly examined. In many persons' mouths it is impossible to keep off this deposit of tartar with a brush—the tartar encroaches upon the gum, etc., and we get irritation and suppuration. Turbid or mixed saliva is white in color and in the normal condition is alkaline. After fasting, the alkalinity decreases and the saliva may become acid. In some diseas-

ed conditions it may become acid in reaction as in certain forms of dyspepsia, etc. Pieces of meat left between the teeth leads to the formation of acid that acts on the gums. Certain germs are likely to be there present and then they are liable to become the cause of disease. For recent advances in the study of bacteria, we are indebted to Dr. W. D. Miller, of Berlin, a former graduate of Ann Arbor. Tartar has in its composition mucus, epithelial scales, food, inorganic salts, inorganic and organic substances that have been lying around the gums putrefying. The specific gravity of this deposit is from .1002 to .1009. By means of mucine the saliva becomes rancid and through this it retains deposits in the mouth and harm results. Over forty years ago saliva was experimented with and thought to be poisonous even from healthy persons, but since it has been ascertained that this resulted from the inorganic constituents chlorine, phosphorous and sulphur. Saliva decomposes readily and if allowed to stand some little time, as was necessary in those days, owing to the poor facilities, microbes develop and it often becomes an infectious, poisonous liquid. An excess of mucine and ptyalin aid putrefaction. Mercury is often present in the saliva. It is not necessary to give a complete analysis here, as dentists have ample means of getting specimens; the microscope and a few reagents are all the materials to be desired.

DISCUSSION.

DR. J. TAFT: There is one question as to the facility with which deposits are made, why are they more rapid in some mouths than in others? In some cases where there is perfect health there seems to be no deposit at all. Is the amount of material uniform in all cases, or does it differ? or, is it due to the inability of the saliva to hold the substance in solution? Why does it precipitate?

DR. VAUGHAN: I have experimented and think it due to the amount of carbonate of lime present in the parotid saliva of some people. Tartar there forms in a few weeks and placing litmus paper at Steno's duct, we find the reaction acid and the precipitate is probably due to the carbonic acid gas holding this carbonate of lime in solution, as in water, and when the saliva is poured out the carbonic gas escapes and we get a precipitate.

DR. J. TAFT: We are taught that an increased flow of saliva

would render it less rich than the normal and are not these causes, such as chewing tobacco, unfriendly to digestion?

DR. VAUGHAN: No doubt the chewing of gum, etc., has its influence on the food, but just how important this saliva is we do not know, for we have more secretions lower in the digestive tract.

DR. METCALF: I suppose Dr. Taft wants to know if where the saliva becomes too rich, whether it is not an excellent thing to increase the flow by using tobacco.

DR. JACKSON: I would like to ask if there may not be more carbonic acid in the body than is carried off by the blood, causing it to appear in the gland?

DR. VAUGHAN: I have made no experiments and do not know.

DR. TAFT: In regard to the chewing, I said tobacco because it is more stimulating and causes more of a flow of saliva, than chewing gum.

NITROUS OXIDE.

BY A. M. LONG, D.D.S., MONROE, MICH.

IN entering upon the subject of nitrous oxide, it is not my purpose to go into the discovery, early history, the process of its manufacture, or means by which its purity may be determined, neither shall I enter upon its physiological action, or whether it enters into combination with the blood and is there decomposed, or whether it is eliminated from the lungs as nitrous oxide, without exerting any chemical influence on the blood. I shall confine myself more to the method and manner of its administration.

In the year 1844, by mere accident, Dr. Wells discovered that this agent could be made to serve a practical purpose; but unlike many in our profession who prefer trying all new experiments on other people, we are informed that he himself inhaled the gas and had a large molar extracted. Many experiments followed with credit and discredit, but it was not very generally known until Colton opened a dental office in New York in 1863. His success with nitrous oxide was soon heralded from the Atlantic to the Pacific, and across the waters to all parts of the civilized world.

Who does not remember the great glad hope that was asso-

ciated at this time with the words, nitrous oxide, but we were buoyant only for a brief time, for the lurking poison in it sent it almost beyond our grasp as an anæsthetic. How with bated breath we read of its baleful influence. Spasms of the larynx—spasms of the respiratory organs continuing for days and sometimes weeks. Vomiting combined with syncope. A deep sleepy condition as if the patient had taken a powerful narcotic. Head-ache, often severe and lasting from one to four days, strange sensations, or absence of ordinary sensations. In some cases the asphyxiated appearance was strongly marked on the face which became black, or of a dark purple color, sometimes the breathing was hollow, rapid, and puffing, very common in nervous females and occurring soon after the inhalation had commenced; this accompanied often with screams and nervous twitching. A little later in the administration, we find the patient forcibly resisting respiration in which case the breath might be held five or six seconds, and then again the patient might be gasping, as for want of air, and the appearance decidedly alarming. Allow me to suggest here, if any of these symptoms should be present, the dentist should examine the gas to be sure there are no impurities, and he should thoroughly examine the apparatus and the inhaler to see that everything is in perfect working order, that no air leaks through and into an imperfect hose or tubing, and that the inhaler valves work free. The question naturally arises, what has been the cause of the above mentioned symptoms. I will not attempt to explain in detail all the reasons, but allow me to present, what may possibly be, the chief cause of at least a few.

The manufacturing of nitrous oxide was then crude compared to what it is now, and the administration was then made without thought or skill. It is like everything else from which we hope for success. First the laws which govern must be understood. By the slow process of improvements, the deadly poisons have been eliminated, as the liquifying of nitrous oxide is a safeguard against nitric oxide, which requires a much higher pressure to liquify than nitrous oxide. Next to pure gas, a perfect working apparatus and inhaler are essential to the successful administration. The tube on the gas apparatus and the inhaler must be large enough to admit of a free flow of gas, that nervous patients, as well as those with weak lungs, can breathe through it without the least exertion.

In the construction of the inhaler a few primary and essential principles must not be overlooked. The diameter of the inhaler must be large enough for the passage of the breath, as freely as if no covering was over the nose and mouth. The valves must be light and without hinges or springs, so that the slightest pressure in inhaling and exhaling will open and close them. The valve openings must be large so that they do not in the least retard respiration. This is more important with the exhaling than the inhaling valve. Bear in mind that ordinarily the expiration is made in less time than the inspiration, and it will not be difficult to realize that the opening to the exit valve should be larger than that of the inlet. Then again the gas receiver can be so constructed as to force the gas through the inhaling valve and naturally aid the patient, but this cannot be done with the exhaling valve. And right here it may be well to say that there must not be allowed in any way any obstruction in the gas channel, and it should be large, without break or curve. The valves should be close to the mouth so as to receive full pressure from respiration. Few people can realize how easily the expiration is impaired. Persons suffering from asthma, angina pectoris, etc., claim that if they sit within two feet of a wall, facing it, there is a strong feeling of suffocation. This I mention to impress upon the profession how important it is that we give attention to the expiration, and especially while we are dealing with an agent that is lighter than the air.

The gas receiver should stop with the least pressure of the breath, and start downward at each inhalation without effort from the patient. The receiver should supply the gas to the patient by forcing it through the long hose into the inhaler, and there be ready for the patient. By using such an apparatus as I have just described the operator may feel that half the battle is won; then by using pure gas, and following the rules that I shall endeavor to give, the operator need not expect to see in his patients lividity of complexion, and have them drift into dreams of the most frightful character and become unmanageable in their excitement, neither may he expect to see many other alarming symptoms that arise and are so generally spoken of in the journals and text books.

It has been thoroughly proven that nitrous oxide will not support life any length of time, and yet I am led to believe that fully two-thirds of the alarming symptoms that have been record-

ed can be directly traced to improper administration. I will here give an extract showing how one of the professors in the Ohio Dental College was impressed the first time he witnessed the administration of nitrous oxide. He said to an associate "I have been unfavorably impressed with nitrous oxide and learning that you are pleased with it I concluded that I needed more light." An engagement was made and he brought a delicate lady patient to have several teeth removed. The success was all that could be desired, and after the operation, said he, "I took my little boy to a nitrous oxide office and he inhaled the gas from a rubber bag and became very dark in the face, as dark as if he had an epileptic seizure. I didn't like it. When I saw the play of the valve and that the breath was not reinhaled, I expected to see less darkening and intended to be satisfied if there was only half as much as in the other case, but as there is none at all I am more than satisfied."

Many dentists who are not familiar with gas, imagine that it is too transient to last longer than the time required to extract one tooth and that it will intensify the natural disposition of the person who takes it. A man of pugnacity will become more belligerent for the moment. Hilarious persons are exceedingly jolly; nervous people are apprehensive of danger and cannot be brought under its influence at all, and for the above reasons if an anæsthetic is required they prefer chloroform or ether.

The frequent deaths caused by the use of chloroform and ether as anæsthetics, have often been impressed upon us. Should we as a profession, having the entire control of confiding patients, use so deadly and so treacherous an agent as chloroform for extracting teeth. No security against its fatal tendency is known. No reliable rules by which to select a subject exempt from its deadly influence, no efficient antidotes or means of resuscitation deserving of much confidence. He who does not feel this professional responsibility to a painful degree, so as not to ignore the value of the lives of his patrons or heedlessly disregard the intelligent warnings of statistical records, may some day wish he had never entered upon dentistry or surgery. Some dental practitioners condemn the use of any anæsthetic in dental practice and will not use them at all, claiming that it divests the operation of all its terrors, and therefore causes persons to have teeth extracted that should not be. This is to the extremest of the

wholesale-extracting institutions, that have opened offices all over this broad land and are sacrificing good teeth by the thousands. Victimized their patients with rose tinted perfumed nitrous oxide, with all the arts of handicraft, witch craft and other crafts, like the lightning tooth extractor that sails in upon us with his Mayo's vapor, vitalized air, oxygenated air, medicated vapor suffogisticated air, etc., at ten cents a ha! ha! One would naturally believe that it was merchandise, and could be held and administered in every household as freely as a bottle of Bull's cough syrup.

It is the abuse of nitrous oxide and not its use that disgraces our calling. For it is one of the grandest gifts to suffering humanity, and as yet nothing has been discovered offering the safety and advantages which this gas does, although it has not been proven to be absolutely free from danger. When I can take a man or woman, old or young, who comes to my office free from liquor, and is self possessed and composed, and confident that they are not going to be hurt, when I have these patients sit in my chair and take the gas without a struggle, and have their teeth extracted without a particle of pain, and when I see them within ten minutes go about their business as if nothing had happened, when I see this day after day, year in and year out, I cannot refrain from the belief that nitrous oxide has a legitimate place in dentistry.

The question which may next occupy our attention is whether there are any known conditions of the system where nitrous oxide should not be given. Patients who suffer from acute rheumatism and heart trouble, such as fatty heart, or damaged valves, epilepsy, St. Vitus dance, diseases of the brain, lungs and kidneys, are not desirable patients for the administration of an anæsthetic. Yet our experience informs us that it is no barrier to this agent if a plentiful supply be given, and the patient is not asphyxiated long before the gas has time to produce anæsthesia. This is a common occurrence when giving gas from the bag, and the long hose that has been attached for an improvement, over holding it in the lap, has only aggravated this trouble for it requires force to draw air or gas through a long tube. If there should be any fluttering of the pulse, or running faster than normal, for the age of the patient, the color of the face should indicate low temperature, and the patient appear to

be low in vitality. Under these apparent manifestations of abnormality nitrous oxide may in many instances be administered with comparative safety, while the indications show that neither ether nor chloroform should be given. Here is an unlimited range of subjects presenting themselves for our consideration. The youth with his vigorous and strong circulation, even in health, is different from the adult with his steady flowing arterial rivers, and a still greater difference in the senile man sinking the floods of his once active heart into the sands of old age, to say nothing of the mental conditions of different subjects at different times.

See that you do not, even in health, deal with these classes all alike. The youth may hold his breath for two or three seconds with no alarming symptoms. Yet in old age if this should go unnoticed for a few seconds it might be the closing scene of a precious life. The operator should allow nothing to detract his attention from his patient while administering an anæsthetic. And if any alarming symptoms should occur, cessation of breathing or loss of pulse, the patient should have immediate attention. The operator should not lose his self possession but proceed with means of restoration. If the breathing ceases he should thrust his fore finger low down into the throat and draw the tongue forward and hold it; this will exact some motion of the throat and mouth and may be all that is necessary. If this should fail, then slapping the chest with the hands or applying a wet cloth to the face, and ammonia or the vapor of amyl nitrite to the nostrils, elevating the limbs and rubbing the extremities toward the body, also raising the feet and lower part of the body higher than the head. Expand the chest by pressing the sides and thus induce breathing if possible. Apply the battery and work vigorously, for moments of time are precious.

Before closing allow me to state in brief the essentials of success. First, get the full confidence of the patient. The patient should be as much as possible in a horizontal position, for these reasons: The heart being the medium of force in the circulation of the blood, and as it is located near the center of the body, and the laws of gravitation hold good with the course of blood from the arteries in the upper portion of the body and the veins in the lower portion, hence we must incline the body to equalize the force necessary to overcome gravitation and

assist the diastolic action of the heart when it becomes weakened by the anæsthetic. Instruct the patient to loosen the clothing, especially around the neck and waist, and avoid tight fitting shoes and gloves, and, in fact, lessen every burden of resistance to the physical force. Place a large rubber apron around the neck and over the lap of the patient to prevent the clothing from being soiled, then by kind and cheerful words allay fear and gain the confidence of the patient in your ability to administer the anæsthetic. Allow the patient a small quantity of water to moisten the mouth and throat, for the salivary glands are apt to be inactive while the patient is laboring under the excitement of an operation. Examine the teeth and place the jaw brace opposite the teeth that are to be extracted. An assistant should stand at the chair ready to hand forceps and help in case he is needed. See that everything is ready before operating as a few seconds occupied in finding an instrument may result in failure. Everything being ready instruct the patient to take five or six inhalations, and as rapidly as possible, say five times as fast as natural, keeping, at this time, the inhaler away from the face. This full and rapid breathing familiarizes the patients, and gets them accustomed to fill their lungs, but the main object is to change the residual air of the air cells. While the lungs are empty place the inhaler over the mouth and nose and allow the patient to take two or three inhalations of nitrous oxide, after which remove the inhaler and allow the patient to take about the same amount of air before replacing the inhaler, the object is to accustom the air cells in the lungs to the gas gradually. From this on throughout the operation the patient should be instructed to breathe as naturally as possible. As soon as the operation is performed the nostrils should be moistened with aqua ammonia which will not only stimulate the nerves of the nasal membrane, but will neutralize the carbonic acid in the air cells of the lungs. The vapor of amyl nitrite is also strongly recommended. The patient should not be kept in a state of semi-consciousness longer than can be helped, and after having so far recovered as to be able to speak, a small amount of vapor of ammonia will be beneficial. Between the stages of reasoning and complete anæsthesia, the apprehension of danger from the effects of the gas and the dread of pain, may, if a tooth be extracted at this critical moment, produce a nervous shock; there-

fore it can be easily understood why the operation should stop at this point and the patient be revived to full consciousness. A bowl and sponge should be in reach, and as soon as the teeth are extracted the head of the patient should be inclined forward to prevent the blood from running down the throat and allow it to run into the bowl. Lady patients should be waited upon by a lady assistant after an operation. A third person should always be present when anæsthetics are administered.

The mixing of fluids with nitrous oxide has been strongly condemned by professional men both in this country and Europe. The Clover apparatus for administering ether and nitrous oxide gained only a limited reputation, and soon went into disuse. Here the operator relied upon the ether to produce anæsthesia, using the gas to hasten the narcotizing effects. From my personal observation I cannot speak in favor of ether, be the quantity much or little, its effects are too irritating. But I have found from six to nine drops of the best of alcohol and chloroform in equal parts thoroughly vaporized in ten gallons of gas, to be a wonderful improvement in prolonging anæsthesia, and yet while it prolongs anæsthesia it does not change the effects of the nitrous oxide, and I have never seen any bad results.

My desire and effort has been to present a clear and concise statement of the manner and method of administering nitrous oxide, and to point out that this can only be assured by an intelligent and watchful guard, that its exhibition be suspended while yet the centers governing respiration and circulation are not too profoundly impressed. I have indicated the responsibility, and I hope what I have said may at least stimulate and put into the hearts of some a desire to gain a better knowledge of nitrous oxide.

DISCUSSION.

DR. J. TAFT: The author said that nitrous oxide would not support life. If this is so, how can a person inhale it for twenty or thirty minutes and yet live?

DR. A. M. LONG: I simply generalized. I did not mean that they could not live a few minutes, but could not exist on it for any length of time. People differ on this question of administered nitrous oxide. Some think that life is exalted, but it is carried down instead. Experimented on one man who took five hundred gallons of the gas in forty-eight hours. His head was buzzy and he remained drunk for four days.

DR. LAND: I have read of experiments by nitrous oxide under pressure, which in some way changed the specific gravity, and would support life indefinitely.

[We presume the Doctor refers to the method of the late Paul Bert.—ED.]

DR. METCALF: I would like to inquire if there is not a disturbed period of mind during the administration of the gas and if the pulse is not affected?

DR. LONG: The increased pulse is due to excitement, and is not from the nitrous oxide, as that has a depressing influence from the start.

DR. TAFT: I would like to ask a question, of Dr. Vaughan, as to the stability of nitrous oxide as a compound. How does it compare with the atmosphere?

DR. VAUGHAN: First, nitrous oxide when taken into the system forms a definite chemical compound with hæmoglobin. The air forms a compound known as oxyhæmoglobin and nitrous oxide forms nitrous-oxy-hæmoglobin. It is a loose compound and is easily separated. It is different from carbon monoxide which forms a stable compound. Of the first two, nitrous oxide is the more unstable compound. Nitrous oxide decomposes to some extent and leaves oxygen in the blood. Compressed oxygen and nitrous oxide are different.

DR. LONG: I would like to ask if some of the nitrous oxide is not eliminated free?

DR. VAUGHAN:—The blood can only take up a certain amount of the nitrous oxide. The question is to what extent would the nitrous oxide replace the oxyhæmoglobin.

SHOULD PHYSICIANS EXTRACT TEETH?

DR. CORBIN read a short paper. He told of a physician in a small town, who had never charged a patient a cent for extracting. Another physician of the same town, carried both turnkey and forceps. His wholesale rates were from seventy-five cents to a dollar a sitting, and the patients could have as many teeth extracted as they chose. Another physician did cheap work, and still another arranged with a dentist to "clear" mouths, and turn the patients over to the dentist, at two dollars a mouth. Thus the destruction of many good teeth prevailed. Every mouth should have some good teeth, and I ask if physicians should extract? But pass a law prohibiting the doctors from tooth

extraction and some dentists would cause trouble. Had no plate ever been inserted for less than \$200.00, far less teeth would have been extracted. These things should be corrected by colleges and dentists.

DR. J. TAFT: The lamentable fact is, it is too common a thing, and that the majority of cases are from dentists outside. Applied generally, are the dentists any better in this respect than the physicians? Among physicians there are many noble exceptions; men who study the mouth and diseases thereof. A question asked to-day is "what will become of all the dentists that are graduating?" but one would think from the paper just read that there would be plenty of room for years to come. The great question seems to be how can I make a living instead of how can I do the patient the most good. It would be far better to do work for the result rather than for dollars and cents. The effort of every institution should be to correct these views.

The majority of students go out of college with the right motive and intentions. He here cited a case of mistaken diagnosis. A patient had a full set of artificial teeth, the natural ones having all been extracted. An abscess opened opposite the second lower bicuspid. This patient had been treated three years by physicians who called it a malignant tumor. A short time ago the patient came to me, and upon examination I found an impacted tooth and removed it. I made an incision through the gum and there found the point of a tooth between the process walls. The tooth was so firmly imbedded it had to be burred out. It contained enamel, but was a supernumerary tooth. In twenty-four hours the discharge wholly ceased, the opening closed and no pain was manifested. It was simply a case where the physicians were wholly mistaken as to the cause of the trouble. They said that a part of the jaw would have to be removed. Perhaps though, physicians are excusable for they have other things of more importance to study and we will only get the best results when the field is so divided that each can work in his own line.

DR. JACKSON: We must instruct the physicians in this regard, that there are other things than the extraction of teeth and artificial plates to be looked after. Physicians are friends of the dentist, and if we maintain our dignity of character we will find many such that will aid us much in our pursuit.

DR. C. R. BUTLER, of Cleveland, Ohio, being present, was

called and said : I appreciate the compliment and cannot forbear saying a few words on the subject at this time. The remark of Dr. Taft "that it is better to serve humanity for love rather than money," is true. If we do this the money comes all right. The idea of striving for a living though, is all right. I hate a lazy man. There is no room for them in the world. As to the fear that the medical or dental colleges will turn out more doctors than there is need of, there is no danger of that. Statistics show that in all the professions, only one in seven makes a first class man. Just as sure as you are faithful and honest you will derive your just reward. I do not question but that these students here have had excellent teaching, for I know something of it myself. The advantages here are far better than in earlier days, when I toiled over books to gain a knowledge of dentistry, but since by earnest effort I have obtained a somewhat respectable situation. Honest, earnest effort brings faithful friends through which all these things come.

THE PERMANENT FIRST MOLARS.

DR. J. A. WATLING was called and said : It is with reluctance that I come before you with this subject, as I am not fully prepared, and only present it on account of there being nothing else at hand.

What shall we do with badly decayed molar teeth at an early period of life, shall we extract, or fill them ? If we extract, at what period shall we do so ? I have seen cases where the teeth, of children eight or ten years of age, have been filled with amalgam and the teeth gone to pieces in a few years. Now, would it not have been better to extract and let the third molars come forward ?

In the Odontological Society of New York, some time ago, filling at the age of ten and after the pulps were dead, was advised. I know of a dentist who some years ago advocated filling where there was an abscess and fistulous opening. (He here showed the model of the teeth of a child, aged eleven, where the molars had been filled with amalgam.) I extracted them, and nine months after the space between the teeth on the upper jaw was one-half closed and that on the lower, one-third. The upper first molars can be extracted later in life than the lowers and the space fill up. If the teeth are extracted as late as the twentieth

year the space may not close; but at the age of seventeen they may be extracted with good results. I would like to get the views of others on this subject and that is why I have made these remarks. I do not advocate the wholesale destruction of teeth; where they can be saved, and it is practicable, save them by all means, but if they must be extracted what year is best?

DR. FIELD: The case that Dr. Watling has shown is hardly a fair one. The teeth look as if there had been deficient nutrition at sometime. It is a question when the teeth are in that condition whether it is best to fill them at all. I should, however, fill all the teeth I could, if not with gold with a temporary filling, keeping them for awhile until nature could recalcify, then fill. I do not use amalgam. After extraction I have found trouble in a tipping forward, especially of the two molars. In the majority of cases a space remains. It is not a matter of time but of the tooth itself. If the tooth has not gone too far and the indications are that it will become good, fill with plastics. After recalcification has taken place I cut out a portion of the filling and insert gold. In pulpless teeth, at the age of ten, where the foramen is not closed I fill the root.

DR. JACKSON: I think in extracting we should take the age of the patient into account. If we extract too early there is a lack of development of the jaw and the features are marred. If the tooth is chalky at the margin of the gums it is generally best to extract, but if it is not I would hesitate sometime before removing it. It is frequently the case in persons from eighteen to twenty that teeth we thought could not be saved before trying have been and the bad indications passed away.

DR. J. TAFT: There cannot be any one rule that is practicable to every practitioner and it is the same with filling. All men are not alike in their apprehension of things. Some operate well while others do not; the operations vary much when a like effort is made. Men see the same thing differently. The man who has made a study of irregularities is better able to give a satisfactory account where one not so familiar with the case could not. No man ought to pursue any course in the dark. Let him gain intelligence and then be guided by it. The man who works in the dark and is not able to do without guessing at the results ought to be careful. If all the teeth were alike it would be easy for all to arrive at the same conclusion. Sometimes the teeth

are amenable to treatment. Some teeth seem to be about gone, with eight or ten large cavities. I had a case thirty years ago and filled with tin expecting the loss of the teeth soon, but the texture improved and the filling stood twenty years when I refilled with gold and the teeth are doing good service to-day. In some cases, however, the teeth go to destruction whatever course is pursued. If the first molar is decayed and there is a probability that the jaw will develop and make room for the third molar to come in it is all right to keep the tooth. I know a person who at the age of seventeen had his first molars removed and the space has never closed. An individual only sees one phase of these subjects, that is the trouble and affords ground for a difference of opinion. We should study the phases and character where the teeth are liable to change in the mouth. I have seen many cases where the teeth were stubborn and would not come together. Another question is, what is the position the teeth may take if they do change? They may approximate if they do not come together. Some teeth incline so that the tops nearly touch while the space at the gum is much wider, this brings another serious trouble for the occlusion will be faulty. In cases it is best to combine the ideas and experience of others with our own and especially the observation of others should be taken. If the teeth are irregular and cannot well be regulated it becomes a great question and we should be governed by circumstances. If extraction is necessary then extract. It is very rarely that the cuspids have to be removed, but very frequently the second bicuspid should be. Dr. Keely, of Oxford, Ohio, will frequently tell you to extract the second bicuspid rather than the first molars. Let us get broader views and then our practice will result better than it does now, in many instances at least.

DR. WATLING: At from nine to twelve the first lower molars may be extracted with assurance of the space filling up and the uppers up to the fifteenth year of age. It is better for the third molars if the first molars are extracted.

DR. LAU presented a patient from Detroit who was 57 years of age. Six years ago this lady suffered great pain from a swelling in the posterior part of the inferior maxillary bone. For a year past the socket had not healed and pus was exudated. The pain at times was exceedingly great and the eyes and ears were affected. She had been under treatment of physicians at Detroit,

who had diagnosed it a case of tumor with possibility of a portion of the jaw having to be removed. The mouth was examined by the different dentists at the meeting and an impacted third molar found. With some difficulty this was burred around and extracted which probably will end the protracted pain.

Correspondence.

"I charge you that this epistle be read."

"MERCHANT KELLY—A SKETCH."

MERCHANT KELLY, of whom a sketch was given in the February JOURNAL, for several years before his death, when not on a tramp, made his home about ten miles northwest of Connersville, Indiana, in a little one-story shanty of three rooms located in an obscure place, three miles from any railroad or post office, where he was familiarly known as "Old Kelly." He was a great worker in the cause of anti-masonry, and employed speakers at his own expense to give free lectures at the village church. On every tree along the roads and at cross roads could be seen his posters, warning the people, in glowing terms against, as he termed it, such mockery. Besides billing the entire neighborhood he would visit the houses and leave books and pamphlets which he would gather up on his return trip; always walking, it was remarkable what a load he would carry. He invariably would bounce into a house when calling at a place without knocking. The writer vividly remembers, while a lad, of attempting to shoulder his old carpet bags, (which he had left on his way to a lecture,) when he bounced in the front door without warning and caught the lad in the act.

A visit to his home revealed a genuine curiosity shop. There stored away in three dingy little rooms were instruments of every description, besides shoemaker and blacksmith tools, many of his own make; knitting machines, sewing machines of different kinds, lightning self-setting rat traps, batteries of his own make, guns, pistols, toys, wire puzzles, and a thousand and one things too numerous to mention. After his death a public sale was made of his effects, and to-day stands without a rival for trinkets

and traps of every description. It seemed that of almost every new invention that came out Kelly would purchase one and experiment with and try to make an improvement on it.

Merchant Kelly was a moral and conscientious man, always standing up for the right. After a busy and useful life he passed away May 27, 1875, aged 64 years and 12 days.

A NEIGHBOR.

REPAIRING RUBBER PLATES.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—I had trouble with partial rubber plates—after replacing a broken tooth the plates would not fit as before. Recently I had such a case, an upper plate with right and left lateral incisors. It had been worn only three weeks and fitted well. One of the teeth broke in use and I put on another one but on inserting the plate in the mouth it dropped down. I think I have discovered the cause and its remedy. In closing the flask, after packing, the pressure depresses the plate in the center and raises it at the sides, so I heated the plate over an alcohol flame and pressed back the sides, holding it until cool. Upon inserting it fitted perfectly. Hoping this experience may help others, I am yours truly,

C. M. COLBY.

SOUNDS FROM CHICAGO.

THE WORK OF THE ILLINOIS DENTAL COLLEGES DURING THE PAST SCHOOL YEAR.—POSTPONEMENT OF THE ASHEVILLE MEETING OF THE AMERICAN DENTAL ASSOCIATION.—THE ILLINOIS BOARD OF EXAMINERS SEEKING FINANCIAL AID.—MEETING OF THE ILLINOIS DENTAL SOCIETY.

Special Correspondence Ohio Journal of Dental Science:

THE lull of the calm of after-commencement times has fallen upon professional work in the medical and dental colleges of this city during the past month, and, with the exception of a limited attendance upon spring courses of instruction, and the "breaking in" of new corps of lecturers in this comparatively new feature of college work, there is little to note in dental circles of this city.

The work of the past school year in the three dental colleges of Chicago has been quite satisfactory to the authorities of those institutions. The attendance of students—in point of numbers—has been larger than ever before, the character of the educational work done in the two older schools has been of a higher standard than in any previous year, and their financial affairs have been so administered as to leave them with no very large deficiencies in their treasuries. The Chicago College of Dental Surgery, which has just closed its sixth year, reports a regular attendance upon its lectures of eighty-two students and a total number of 117 matriculants; The Northwestern College of Dental Surgery, which has just closed its second year, reports an attendance upon its courses of instruction of eighteen and a total number of matriculants of twenty-six. The American College of Dental Surgery, a newly-chartered institution, had a regular attendance of seven students and matriculated nine. The number of graduates from these schools were: Chicago, 42; Northwestern, 1; American, 3. The younger institution rather ill-advisedly conferred two honorary degrees upon *attaches* of the institution, and failed to come up to such a standard of instruction as would commend it to those who are seeking to elevate the work of our professional schools. The Chicago college is flourishing, even under a Board of thirteen directors, is now one of the best equipped dental schools of the country, and enjoys the moral support of a very loyal alumni. It still requires the old standard of six month's attendance, but advises its spring course, as well; and its faculty have done some excellent work. The Northwestern college has adopted a nine month's course as the requirement of attendance upon future terms, has strengthened its faculty very materially, and arrangements are being made which will undoubtedly result in its becoming the dental department of one of our strongest universities. Prof. William Taft, M.D., D.D.S., of Cincinnati, has been elected to and has accepted the chair of Operative Dentistry and Dental Histology, and will enter upon the work of that chair in October next. Prof. Melancthon Stout, D.D.S., an alumnus of the Ohio College of Dental Surgery, has been elected superintendent of the clinics of the Northwestern, and will have entire direction of that department of the college work hereafter.

The agitation which has followed the creation of the Dental

Section of the International Medical Congress, looking toward the holding of a purely dental congress in the near future, will probably take shape before the close of the year. Whether the coterie of Chicago dentists who are on a "still hunt" in planning to rescue the control of this embryo affair which is to eclipse the medicos will succeed or not time alone can tell. Appropos of the above, I can tell you that the meeting of the American Dental Association,—which was decided upon at Niagara Falls for Asheville, N. C., in August,—will be postponed for a year. The President of the American Dental Association, Dr. W. W. Allport, is a Vice-President of the Dental Section of the International Congress, and has quietly secured the consent of a majority of the officers for a postponement of the Asheville meeting until 1888. Drs. A. W. Harlan and Geo. H. Cushing, who are also officers of the American Dental Association, have antagonized the movement for a postponement of the meeting, but have had to succumb. I fancy that Dr. Kingsley and his New York First District Society friends will now unloose their vials of wrath upon the Chicago professional friend (?) they love so well for thus obstructing in a double sense the idea of dentistry being an independent profession. There is no doubt but that the two sessions coming so closely together will work a disadvantage to both; yet a large number of the profession in this section will bitterly oppose the idea of making the plans of their national association subservient to what they term "the tail of the medical kite."

An attempt has been quietly made to secure from the General Assembly of this State at its present session an appropriation sufficient to cover the expenses of the State Board of Dental Examiners. Under the provisions of the act creating the Board the only income the Board enjoys averages less than a hundred dollars a year. Of course this leaves them very lame financially. Yet the effort to secure direct aid by legislative appropriation can hardly succeed. Had the Board so conducted its affairs as to win the general respect and confidence of the profession in Illinois, it would even then have been a different matter to have secured an appropriation. But their methods of executing the trust reposed in them has been such as to bring down upon them very galling strictures from the courts; and this, coupled with the aversion to voting money to "boards" which do not directly concern the masses of the people, will keep the Legislature from

giving them the needed aid. A movement has been quietly inaugurated with the end in view of relieving the members from the unpleasant dilemma under which they are laboring, and they will not have long to lament the "ungratefulness of common-wealths."

The State Association will meet at Jacksonville on the 10th proximo. There will undoubtedly be a good attendance, and the character of the papers offered is such as to insure a highly-instructive and interesting session.

CHICAGO, April 27, 1887.

STUART.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

WELDING.—It has been shown that bars of iron, steel, copper and brass can be welded firmly together in a few seconds by passing through their junction a very powerful electric current.

BLISTERING.—A neat and easy way of blistering is to place some aqua ammonia fortior in a watch crystal, and invert over the part. Its action is speedy and effectual.—*Clinical Record.*

LOCAL ANÆSTHETIC.—DR. KULP, of Davenport, Ia., uses the following as a local anæsthetic: *olei caryophyll*, *olei cinnamon* and *chloroform* in equal parts.; applied with cotton to the gums.

TO SEPARATE PLASTER.—DR. W. D. BAUGHN says: I use tissue paper, wetting it down with brush and water to separate the plaster in flasks. It is quickly done and effectual.—*Items of Interest.*

EXTRACTING THE LOWER THIRD MOLAR.—In using elevating forceps in extracting under third molars, a piece of tin or other substance should cover the back edge of the second molar to prevent its fracture.—*Items of Interest.*

DR. C. D. PECK, of Sandusky, is something more than a good dentist. He recently took the medal from Company B, by making 19 out of a possible 25 bull's eyes, in target shooting.

BRIGHTENING STEEL.—To clean rust from polished steel take 10 parts of tin putty, 8 of prepared buck's horn, and 25 of spirits

of wine, and mix to a paste. Cleanse the article by rubbing with this and finally rub off with blotting paper.—*Sanitary Plumber*.

THE DEGREE OF M. D., honorary, was conferred upon Dr. C. H. Harroun, of Toledo, at the recent commencement of the Northwestern Ohio College of Medicine, in that city. Being merited it gives us pleasure to make this announcement knowing that all friends of the doctor will join us in expressing gratification.

A NEW SYRINGE.—DR. ROSENTHAL has devised a curious kind of syringe provided with a three-way valve, by means of which exhaustion and injection can be alternated with any desired rapidity, and thus pus can be pumped from a tooth sac, and the cavity antiseptically cleansed almost simultaneously, with the result, it is said, of prompt and complete cure of the abscess.—*British Dental Journal*.

LOOSE GOLD FILLINGS.—DR. E. W. STEVENS says: When a large solid gold filling becomes loose from any cause, instead of making an entire new filling, adjust the rubber dam, cut around and remove the loosened gold, cleanse thoroughly and after excavating the softened dentine, and coating the walls of the cavity with ether varnish, reinsert the plug in oxyphosphate, allow it to harden and then polish. It will last for years. I've tried it.—*Western Dental Journal*.

BLEACHING PROCESS.—DR. SCOFIELD successfully bleached a lateral incisor as follows: He removed an old oxychloride and cotton filling from the tooth and placing crystals of iodine in the cavity sealed it with gutta-percha. The next day the tooth was dark as iodine itself. He removed the iodine and treated with ninety per cent. alcohol for several days when the tooth gradually whitened until it was as clear and white as before it became devitalized.—*Independent Practitioner*.

COCAINE TEST.—MR. H. MACLEGAN gives the following as a practically satisfactory test for cocaine. Take one grain of hydrochlorate of cocaine, dissolve it in two fluid ounces of water and add two drops of solution of ammonia. If the salt be pure, when the liquid is stirred with a glass rod well marked striæ will appear on the sides or bottom where the rod has touched the dish, and the liquid is left clear and bright. If the salt be impure, even in the slightest degree, no striæ appear and the

liquid remains milky for a long time presenting an oily appearance on the surface.

USES OF CALENDULA.—DR. B. H. CATCHING says regarding tincture of calendula: To the dentist it is of the greatest value. Applied to wounds incised or lacerated, it is healing. A half drachm in a glass of water is soothing to the gums during the removal of calculous. As a mouth wash after the extraction of teeth one ounce to seven ounces of water, with 40 drops of carbolic acid, is not only beneficial, but pleasing to the patient. In Rigg's disease, after the scraping or scaling has been thoroughly done, the same wash, used in connection with chloride of zinc, 30 grains to the ounce of water, applied with a sable brush to the pockets is of value. To irritated pulps it is soothing. In treating the severed end of blood vessels after the removal of pulps, its properties are valuable. For offensive breath, a few drops in a glass of water is effectual.—*Southern Dental Journal*.

SWAGING MACHINE.—MR. L. MATHESON after experimenting with the Tauber Hydraulic Press says: The object of the invention is to supercede the ordinary zinc and lead casts and dies in the making of metal dentures, by the employment of hydraulic pressure, applied directly to the plate resting upon a cast of Spense metal—a curious compound which it is possible to pour whilst molten into a Stent or gutta-percha impression, but which when cool is quite hard enough to bear a greater strain than zinc. Two claims are made for the machine. (1) That a great saving of time is effected by doing away with the necessity for the ordinary casts and dies; and (2) that a good fit is obtained with more ease and certainty than by the method now in use, owing to the principle of the appliance by which pressure is brought to bear equally on all parts.—*British Journal of Dental Science*.

IODOFORM VAPOR.—DR. W. H. WHITSLAR says: In pulpless and foul smelling teeth or for the purpose of antiseptis in the case of exposed or nearly exposed pulps, and where it is desirable to have dryness and medication by liquids may not be easy, I take an ordinary chip-blower syringe and dip the nozzle into a quantity of iodoform, at the same time compressing and relaxing the bulb which draws the iodoform into it. Heat the nozzle quite hot over a flame and direct the vapor as desired, compressing the bulb to expel the iodoform which is carried with certainty to every por

tion of the cavity to which the vapor is directed. This iodoform vapor will also have its effect on the pulp by being absorbed and assisting to tone up the lagging member. A fresh tonka bean will completely disguise the odor of one ounce of iodoform with no detrimental effects, and render it sweet smelling.—*Dental Review*.

DESTROYING PULPS.—DR. C. J. TIBBETS recommends *arsenite of potassa* for destroying the vitality of tooth pulp. The preparation is made as follows: "Take 12 grs. of caustic potash, 10 grs. of arsenious acid, place in a mortar and add a few drops of water to assist in reducing the potash and arsenic to a thick creamy paste, then add 10 grs. of sulphate of morphia (or of muriate cocaine) and stir for fifteen or twenty minutes to prevent re-crystallization; keep in wide-mouthed bottles well stopped with cork boiled in paraffine." In applying the paste the same precautions are to be used as with arsenic. The cavity is sealed with gutta-percha incorporated with enough wax to render it non-plastic. The arsenite of potassa may be applied to the pulp of an aching tooth, it matters not how great the congestion may be, and in from three to twelve hours the pulp may be entirely removed. If the dressing be undisturbed for ten or twelve days, most frequently no remains of the pulp will be found save a soapy condition of the chamber and root canals rendering the subsequent cleansing a very easy matter. No greater pain will follow the application than that which caused the visit.

Societies.

"Wherewith one may edify another."

MEETINGS.

Northern Ohio Dental Association, Cleveland, Tuesday, May 10, 1887.

Illinois State Dental Society, Jacksonville, Tuesday, May 10, 1887.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Pennsylvania State Dental Society, Glen Summit, (near Wilkesbarre, Pa.,) Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 1887.

NEBRASKA STATE DENTAL SOCIETY,

WILL meet at Hastings, May 17, 1887.

Beatrice, Neb.

I. W. FUNK, *Secretary*.

NORTHERN OHIO DENTAL ASSOCIATION.

THE twenty-eighth annual meeting will be held in Cogswell's Dental Depot, 29 Euclid Avenue, Cleveland, Ohio, Tuesday and Wednesday, May 10, 11, 1887, commencing at 10 A. M. A cordial invitation is extended to all the profession.

Subjects for discussion.—1. The Relative Duty of Patient and Operator. Paper by Dr. J. W. Lyder, of Akron. 2. Best Treatment for Buccal and Labial Cavities. Paper by Dr. J. E. Robinson, of Cleveland. 3. Artificial Substitutes for Natural Teeth. Paper by Dr. H. Barnes, of Cleveland.

S. B. DEWEY, *Cor. Sec.*

J. R. BELL, *Prés't.*

THE KENTUCKY STATE DENTAL ASSOCIATION

WILL hold its seventeenth annual meeting at Louisville, Ky., beginning Tuesday, June 7, 1887, and continuing three days. The meeting will be held in the Louisville College of Dentistry, Chestnut street, between Floyd and Preston.

PROGRAMME—SUBJECTS FOR DISCUSSION.

1. The Proper Care of Children's Teeth. 2. The Consistent Saving of Time in Prolonged Operations—How can it best be accomplished? 3. The Causes of Dental Caries, and the Best

Preventive Treatment. 4. The Proper Treatment of Pulpless Teeth. 5. Crown and Bridge Work. 6. New Remedies. 7. Incidents of Office Practice. (Members are requested to prepare papers on above subjects.)

PAPERS.

1. Cancrum, or Scirrhus Gangrenousa of the Inferior Maxillary, J. T. McMillan, D.D.S., Paris, Ky. 2. First Dentition, F. Peabody, D.D.S., Louisville. 3. Disease, J. Taft, D.D.S., Cincinnati. 4. Irregularities, G. W. Keely, D.D.S., Oxford, Ohio. 5. The Rationale of Crown and so-called Bridge Work, John J. R. Patrick, D.D.S., Belleville, Ills. 6. Inflammation, H. D. Eggers, M.D., D.D.S., Louisville.

CLINICS.

1. Gold Crown and Bridge Work, Jno. H. Baldwin, D.D.S., Louisville. 2. Impressions, B. Oscar Doyle, D.D.S., Louisville. 3. Microscopy, Simon Flexner, Ph. G., assisted by J. Hooper, Louisville. 4. Porcelain Crown, F. Peabody, D.D.S., Louisville. 5. Gold Crown with Porcelain Face, C. G. Edwards, D.D.S., Louisville. 6. Irregularity Appliances, G. W. Keely, D.D.S., Oxford, Ohio. 7. Bridge Work, Jno. J. R. Patrick, D.D.S., Belleville, Ills. 8. New Appliances, T. A. Long, Philadelphia.

VOLUNTARY PAPERS.

Conceited Dentists, H. D. Eggers, M.D., D.D.S., Louisville. Irregularities, W. P. McQuown, Georgetown, Ky. Crown and Bridge Work, J. Hooper, Louisville.

OFFICERS.

President, J. T. McMillan, D.D.S., Paris; Vice-President, W. S. Smith, Newcastle; Treasurer, J. F. Canine, D.D.S., Louisville; Secretary, Chas. E. Dunn, D.D.S., Louisville.

BOARD OF CENSORS.—J. T. McMillan, D.D.S., Paris; J. H. Baldwin, D.D.S., Louisville; W. N. Alsop, M.D., D.D.S., Louisville.

EXECUTIVE COMMITTEE.—J. Hooper, Louisville; W. S. Smith, Newcastle; B. Oscar Doyle, D.D.S., Louisville.

STATE BOARD OF EXAMINERS.—A. O. Rawls, D.D.S., Lexington; A. Wilkes Smith, M.D., D.D.S., Richmond; C. G. Edwards, D.D.S., Louisville.

The State Board of Examiners will meet daily during the session to register and examine applicants.

MISSOURI STATE DENTAL ASSOCIATION.

THE twenty-third annual meeting will be held at Kansas City the third Tuesday in June, continuing in session four days, June 21st and 24th inclusive. The dentists in Kansas City are doing all in their power to give the visiting members of the profession a hearty welcome. Efforts are being made to have one of the prominent specialists in the West take part on the program. Clinical operations will occupy an important place at this meeting. All readers of the OHIO JOURNAL OF DENTAL SCIENCE are most cordially invited to be present, and we feel sure they will not be disappointed.

WILLIAM CONRAD, D.D.S.,
President.

JOHN G. HARPER, D.D.S.,
Rec. Sec., St. Louis, Mo.

MAD RIVER VALLEY DENTAL SOCIETY.

NO MEETING.

It has been decided to postpone the meeting of this society, which usually takes place in May, until October, uniting in the meeting of the Ohio State Society at Springfield.

C. BRADLEY, *President.*

L. C. ADAMS, *Sec'y, Dayton, O.*

The above seems to us a very sensible move in view of the extra work devolving on so many in connection with the meeting of the International Medical Congress, and it would be an excellent idea for the American Dental Association to follow suit and omit its meeting this year, or agree to meet in Washington during the Congress.

MICHIGAN STATE DENTAL SOCIETY.

THE thirty-second annual meeting of the Michigan State Dental Association was held in the Dental College of the University of Michigan, at Ann Arbor, March 22, 23 and 24, 1887.

The society was called to order at 8 o'clock p. m. of the first day by the President, L. L. Davis. After the usual preliminaries the regular program was taken up, of which we publish a special report in this issue of the JOURNAL.

By special request Dr. Harroun read his article on "The Treatment of Harelip and Cleft Palate," that was written for and appeared in the April number of this JOURNAL.

Dr. C. R. Butler, of Cleveland, was made an honorary member of the society.

Ann Arbor was decided on as the place for the next meeting one year hence.

The Clausen resolution pertaining to the suppression of illegal practice of dentistry in the State of Michigan was read and adopted. It is as follows :

Resolved, That it is the sense of this Association to assist the State Board of Examiners in dentistry in carrying on the work of the Board and to aid in suppressing the illegal practice of dentistry in this State. Therefore

Resolved, That the Secretary of the Board be required to issue a call, on every registered dentist, of one dollar to aid them in this work.

The principal clinics and exhibits of the meeting were as follows :

Replantation of an incisor tooth by Dr. C. H. Harroun, of Toledo, Ohio.

Large posterior proximal filling made in left lower first molar with gold by use of his pneumatic plugger by Dr. W. H. Jackson.

Filling incisor root and cavity with gold by Dr. Douglass.

Filling anterior proximal cavities with sponge gold by Dr. W. H. Miller.

Exhibition of porcelain crowns in the mouth by Dr. C. H. Land. [A beautiful case. The crowns were undistinguishable from the natural teeth.]

Dr. Moore exhibited screw mandrels made successfully from the common round clinch-nail.

The following officers were elected for the ensuing year : Jerry A. Robinson, Jackson, President ; G. E. Corbin, St. John's, First Vice-President ; H. C. Corns, Detroit, Second Vice-President ; J. B. McGregor, Port Huron, Secretary ; H. K. Lathrop, Detroit, Treasurer.

Adjourned.

NORTHWESTERN DENTAL COLLEGE, CHICAGO.

THE second annual commencement was held March 31, 1887. There were twenty-seven matriculates and one graduate,—Benjamin J. Roberts, of Illinois.

Books and Pamphlets.

THE AMERICAN SYSTEM OF DENTISTRY, IN TREATISES BY VARIOUS AUTHORS. Edited by WILBUR F. LITCH, M.D., D.D.S., Professor of Prosthetic Dentistry, Therapeutics and Materia Medica in the Pennsylvania College of Dental Surgery, Philadelphia. In three royal octavo volumes, containing about 900 pages each, with about 1500 elaborate illustrations. Price per volume, cloth, \$6; leather, \$7; half Morocco, gilt top, \$8. Volume II.—Operative Dentistry, Dental Metallurgy and Prosthetic Dentistry. For sale by subscription only. Lea Brothers & Co., Publishers, Philadelphia.

The contents of the volume are:

OPERATIVE DENTISTRY.—*The Stopping Process with Gold and the Related Procedures.* By LOUIS JACK, D.D.S. *The Herbst Process.* By C. F. W. BÖDECKER, D.D.S., M.D.S. *Plastics.* By A. G. BENNETT, D.D.S. *Electro-Chemical Relations of Stoppings to the Teeth.* By S. B. PALMER, D.D.S. *Calcareous Deposits on the Teeth.* By A. W. HARLAN, M.D., D.D.S. *Discolored Teeth and their Treatment.* By JAMES TRUMAN, D.D.S. *Orthodontia.* By S. H. GUILFORD, A.M., D.D.S. *Replantation and Transplantation of the Teeth.* By GEORGE W. WELD, M.D., D.D.S. *Extraction of the Teeth.* By THOMAS C. STELLWAGEN, M.D., D.D.S. *Dental Metallurgy.* By EDWARD C. KIRK, D.D.S.

PROSTHETIC DENTISTRY.—*Taking Impressions of the Mouth, Plaster Models, Antagonizing and Contour Models.* By A. G. BENNETT, D.D.S. *Metallic Dies and Counter-Dies.* By WM. H. TRUMAN, D.D.S. *Hygienic Relations of Artificial Dentures.* By EDWARD C. KIRK, D.D.S. *Art Relations of Prosthetic Dentistry.* By ROBERT S. IVY, D.D.S. *Methods of Retention in situ of Artificial Dentures.* By EDWARD C. KIRK, D.D.S. *Artificial Dentures on the Rubber Base.* By ALONZO P. BEALE, D.D.S. *Artificial Dentures on the Celluloid Base.* By W. W. EVANS, D.D.S. *Artificial Dentures on the Bases of Fusible Alloys.* By T. F. CHUPEIN, D.D.S. *Artificial Dentures of Enamelled Platinum ("Continuous Gum").* By D. D. SMITH, M.D., D.D.S. *Artificial Dentures on Bases of Gold and Silver.* By WM. H. TRUMAN, D.D.S. *Carving and Moulding Porcelain Teeth.* By W. R. HALL, D.D.S. *Attachment of Artificial Crowns to Natural Roots ("Pitoting").* By W. H. TRUMAN, D.D.S. *Tooth-Crown and Bridge-Work, and Metallic Encasements for Carious Crowns.* By WILBUR F. LITCH, M.D., D.D.S. *Artificial Vela and Obturators.* By HENRY A. BAKER, D.D.S.

The list of subjects and authors will serve to show that the high standard of this great work is maintained in the second volume. No where else can be found such a faithful exposition of the present status of American dentistry, and those of us who have grown rusty, as well as the live practitioner and student, will here find ample food for study and improvement. There are some repetitions, unavoidable in a work by various authors, and

there will always be differences of opinions and methods, but they are not of sufficient importance to detract from the value of the work as a whole. If every reader of the JOURNAL, and especially those who are members of dental societies, would subscribe for the System of Dentistry, we should have an improvement in the discussions in our meetings and journals.

THE MICROSCOPIC STRUCTURE OF A HUMAN TOOTH, together with some irregular and unusual forms of teeth. By C. H. STOWELL, M. D., F.R.M.S., Ann Arbor, Mich. Published by the author. Price \$6. Sold only by subscription. General agent for the United States, C. W. Arnold, of Detroit, to whom applications for agencies should be made.

This is not only a valuable but handsome addition to dental literature. Dr. Stowell is Professor of Histology and Microscopy in the University of Michigan, and formerly editor of *The Microscope*.

The size, $11\frac{1}{2} \times 16$ inches, allows the minutest parts to be plainly shown. A good illustration of this is the Working Diagram of a Tooth, giving the position of the various structures of a tooth, $3\frac{1}{2} \times 12$ inches, also, the transverse section of a root of a bicuspid and the plate showing two dentinal canals. The drawing of a "section of a root, parallel to the dentinal canals" is 5×13 inches, compared with a similar section, $1\frac{1}{2} \times 3\frac{1}{2}$ inches, on page 591 of the first volume of the American System of Dentistry, will give a good idea of the size and excellence of the diagrams, but the one calling for special notice is that of "The blood-vessels of the pulp" which is a marvel of preparation and delineation.

The diagrams are all original, drawn in India-ink by Prof. Stowell from specimens in the collections of Professors C. L. Ford and J. Taft. They were reproduced by the engraver in such a way that the author holds himself alone responsible for their accuracy.

In addition to the letter press with each plate there is a chapter on the progress of dental microscopy from the earliest times, followed by a description of a human tooth and the microscopic structure of the dentine, including dentinal canals or tubes, sheath, fibres, the granular layer, the interglobular substance, vaso-dentine, osteo-dentine, and dentine of repair, the enamel, the cuticula or Nasmyth's membrane, the cement, the tooth pulp, the odontoblasts, the lymphatics, and methods of examining.

The plates are reinforced with linen and bound, the whole

being enclosed in a handsome leather portfolio, intended for use in the reception room or the study. The work may be bought of the author.

THE MANAGEMENT OF PULPLESS TEETH. 32 pages.

"The Odontological Society of Chicago, realizing the want of some hand-book of reference in relation to the treatment of pulpless teeth that are to remain in the jaws, sends out this monograph, with the hope that it may prove of service to the profession. It purposes to detail a simple, but comprehensive, system of treatment, without attempting to present the various other meritorious methods which have from time to time been advocated. It is dedicated to the Dental Profession of the West."

A most excellent idea, well carried out. This little pamphlet is worth more to the student, or to the busy practitioner, than any of the large text books with their tiresome collections of obsolete methods. It should be studied by every one; and other societies should do likewise in the way of disseminating good literature.

PROCEEDINGS OF THE ARKANSAS STATE DENTAL ASSOCIATION,

Contains the minutes of the organization of this new society, January 11, 1887. Also the draft for a proposed dental law in that State.

DENTISTRY NOT A SPECIALTY IN MEDICINE. N. W. KINGSLEY,
D.D.S. Reprinted from the *Independent Practitioner*.

TRANSACTIONS OF THE PENNSYLVANIA STATE DENTAL SOCIETY.

Eighteenth annual meeting, Cresson Springs, July 27, 28, 29, 1886. 70 pages.

We are indebted to Dr. Wm. B. Miller, of Altoona, for the above report. It contains about a dozen papers with but little discussion of the subjects. Either the brethren in Pennsylvania do not talk as much as those in the West, or the reporters are not up to reporting them.

The society has about seventy members, which shows, as in other States, that "the rank and file" of the profession take little or no part in associated effort. We wish it were otherwise and that some one would discover a way to remedy this state of affairs.

Our Aftermath.

THE OHIO DENTAL COLLEGE.—A proposition is being considered looking to the making of this college a part of the University of Cincinnati, yet preserving its integrity and separate management as heretofore.

THE New Dental College in Buffalo, says *The Dental Review*, died a'bornin.'

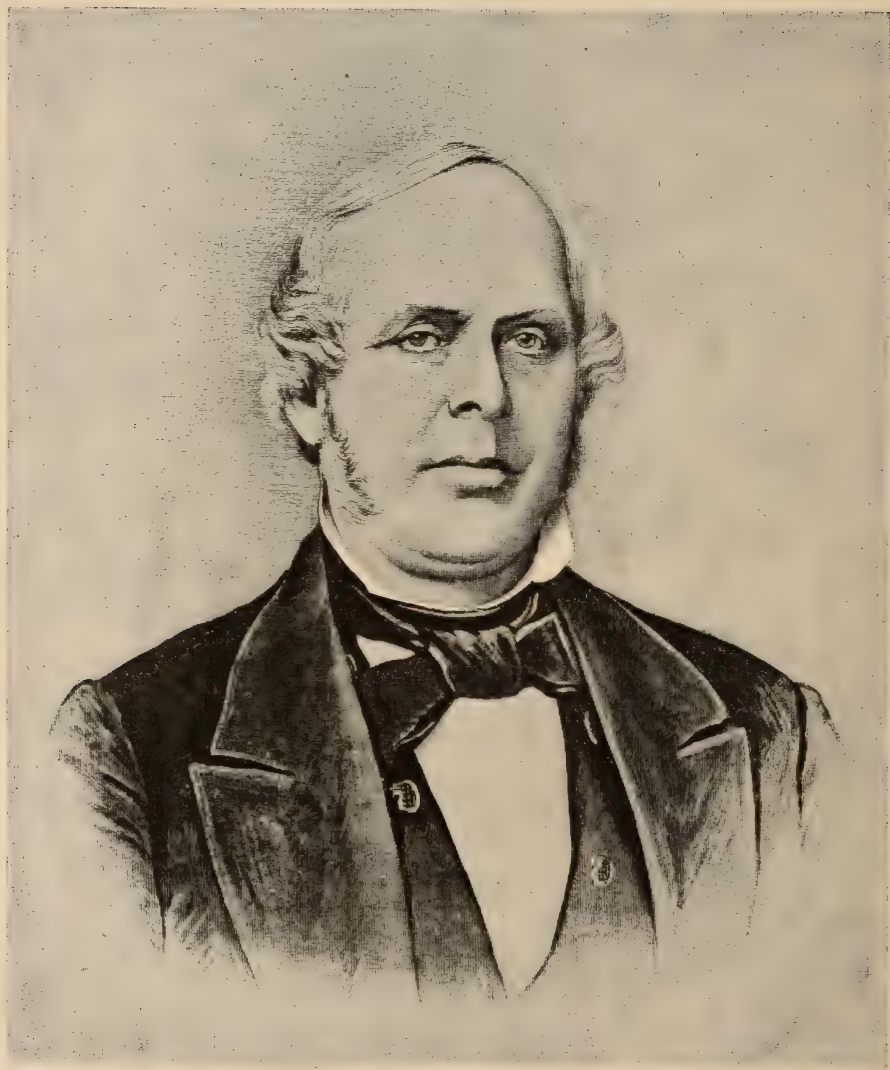
THE PROPOSED NEW DENTAL LAW for Ohio was not brought before the last legislature for action.

DR. DUN's experiments in animal magnetism at the Mississippi Valley meeting were not as convincing, to those not familiar with the subject, as some we witnessed a few months since, where the persons influenced were entire strangers to Dr. Dun, he not even knowing their names or occupations.

MOST of the Addresses to the Graduates at the recent dental college commencements were made by outsiders, some of whom undertook to decide to their own satisfaction whether dentistry is a profession, or only a specialty in medicine. When all the returns are in we shall know all about it, and tell our readers the result.

THE AMERICAN DENTIST IN ENGLAND.—The American dentist has become almost as fixed an institution in England as the French hair-dresser or the German waiter. There are probably two score in London alone, commanding a patronage which would open the eyes of their professional brethren at home. I think dentistry is probably the only thing in which Englishmen would unanimously concede American supremacy.—London Correspondent *N. Y. Times*.

THE DISCOVERY OF GOLD.—Gold was discovered in California in the spring of 1848, about sixty miles above the present city of Sacramento, and Captain Sutter at once took specimens down to General Mason's headquarters at Monterey. Lieut. (now Gen.) W. T. Sherman of the general's staff was asked if he could test the pieces for gold. He immediately tried his teeth on a lump making an indentation that convinced him the stuff was malleable. He then sent for the hammer and ax and pounded several pieces out flat besides testing with acids. After further investigation he drew up a report, signed by Gen. Mason, to the government, which at once electrified the country. Thus, less than forty years ago, "Old Tecumseh's" teeth made the first official impress, put the first government stamp of value on to the subsequent thousands of millions of gold delved from the mines of this modern land of Ophir.—*Washington Critic*.



CHAPIN A. HARRIS, M.D., D.D.S.

The Ohio Journal of Dental Science, Toledo, O.

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

JUNE, 1887.

No. 6.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

CHAPIN A. HARRIS, A. M., M. D., D. D. S.

A BIOGRAPHICAL SKETCH.

BY GEORGE WATT, M. D., D. D. S., XENIA, O.

NAVIGATORS lived before Christopher Columbus, and dentists lived before Chapin Harris. Yet these facts avail but little against the popular feeling that the one is the discoverer of America and the other the father of dentistry.

In our sketch of Dr. James Taylor, allusion was made to the fact that the great cities are usually recruited and kept from moral, mental, and business stagnation and rottenness by drawing to themselves new life and vigor in the shape of young men from the rural districts, full of mental and physical force, ready to burst out into business talent and energy.

A favorite student, a personal friend, the reviser of his literary works has told us that Professor Harris's "early life was unknown to his most intimate friends."

He was born somewhere in the state of New York, in a rural district; but had he not been duly reared, prepared, fitted, and

finally inclined to drift into the great political "ulcer" called Baltimore, think of the set back to that city, the state containing it, our whole country and the world, on the matter of dentistry. In the first five years of his life in that city, he was instrumental in causing greater and better progress in the care of the teeth and their appendages than that made in all the ages preceding. He was, early in his professional life, both vexed and disgusted with the medical profession's neglect of such important organs. This he told the writer at his own office, in 1856.

In early life Dr. H. began the study of medicine, and immediately after receiving the degree of M.D., he removed to southern Ohio, which may well be regarded as the most fortunate circumstance for dentistry that ever occurred. From the best information we can give from the places of his sojourn in Ohio, his brother John Harris, also a physician, had preceded him, and Dr. James Taylor had studied medicine with him. John Harris and Taylor were at Bainbridge, a small village in Ross county, yet small as it is, it is the place where dentistry took regular shape and was organized into a profession.

If correctly informed, Dr. Chapin Harris began his Ohio practice of medicine in Greenfield, a small village in Highland county and a few miles from Bainbridge. Possibly before settling down he had visited his brethren at Bainbridge; for very early in the career of Harris and J. Taylor we find both the Harris brothers and Taylor combining dental with their medical practice.

Drs. Harris and Taylor, at their meeting at Bainbridge discussed fully the demands of the dental organs, and the necessity for thoroughly educated specialists, who should give their entire professional attentions to these organs and their collaterals. On comparison of ideas it was found they had arrived at the same conclusions, and had fallen upon the same plans of action. Each was determined to establish, as early as practicable, a college for the sole purpose of educating dentists. Had these two men not met, it is doubtful if the world had yet seen a dental college. Charged to saturation with like mental electricities, Harris and Taylor now repel each other, like two clouds charged alike, and they separate, not because they disliked each other, but each felt conscious that he was a born leader, and hence the parting of Abraham and Lot was less legitimate than theirs.

At about the latest period of their southern Ohio sojourn, we find Chapin Harris still at Greenfield, John Harris at Chillicothe, and Dr. Taylor at Hillsborough. But this triangular, neighborhood arrangement seems not to have been durable; for the fulness of time had about come, and in 1838, the force of circumstances, his own inclination, will and judgment, took Chapin A. Harris to Baltimore.

We have been told that he went into Baltimore a total stranger, yet in half the time it takes an average man to feel acquainted he had revolutionized the dental profession of the city and state, and that mainly by using, as agents and instrumentalities, men whom he had yet scarcely seen.

Notice that he arrives in 1838, exact date not before us, and that in 1839 he has got the American Society of Dental Surgeons, established, the first dental society of the world, and himself editing under its auspices, the *American Journal and Library of Dental Science*. In 1847 this Journal passed wholly into his hands, and he changed its name to the *American Journal of Dental Science*, and, assisted by Dr. Blandy, and later by Dr. Piggott, he continued to edit this journal till the end of his life, which closed Sept. 29, 1860.

But we have not yet detailed all nor the best of his almost immediate work for the cause that lay heavy on his heart. His influence over other men was wonderful. Those on whom he acted was almost as much surprised at his power in this direction as the observers. A part of this so-called personal magnetism was no doubt due to his extraordinary physical development. He was a *giant*. He was President of the American Dental Convention at Hope Chapel, New York, in 1856, and was so much the largest, and most portly man present that there was no other one fit to rank second. He was always self-poised and calm, and never lost sight of the object pursued. Such men seem to be the essence of success, and "success, succeeds." Bear in mind 1838 as the year of his arrival in Baltimore, yet we are still on his next year's labors, and will now call attention to the most difficult, the most original, and the most important of them all. In this most noted year of 1839, he had succeeded in gaining the co-operation of the following men of note, viz: Drs. Horace Hayden, Thomas E. Bond, Washington R. Handy and James H. Baxley, and in connection with these he obtained a charter from the

Legislature of the State of Maryland, for the establishment of a College of Dentistry, under the title of the BALTIMORE COLLEGE OF DENTAL SURGERY; and it became completely organized and a full course of lectures were delivered in 1840, the *second* year of Dr. H's residence in the city.

We have the statement of Prof. Gorgas, who is likely to be well acquainted with all the facts, that "This Dental College was established with the view of its becoming the Dental Department of the University of Maryland, but the prejudices then, and for many years afterwards existing on the part of the medical profession, prevented the accomplishment of what was the most cherished desire on the part of the founder of the first dental school."

In Milton's poetic description of "Old Hobson," (of Hobson's choice notoriety) the faithful old porter of Oxford, we are told that he was so fond of carrying burdens that even when Death was pressing him into the grave, he called out "More weight." So, in reading any biographical sketch of Dr. Harris, if you find him doing the work of three or four men, look carefully and you will find him doing also that of two or three more. Accordingly the same year that witnesses his first course of lectures in the college, brings out the first edition of *The Principles and Practice of Dental Surgery*, this edition being modestly called *The Dental Art*. This was about 1840, and may be regarded as *really* the first American text book on dentistry. He continued to revise and edit this book till its 8th edition. After his death Prof. P. H. Austen revised the 9th edition, and Prof. F. J. S. Gorgas the 10th and 11th. And the amount of good done by this book alone is entirely beyond the powers of human estimation.

We find a slight difference in dates mentioned by different writers as to the time and periods of special labors by Dr. Harris. Of course we try to be accurate, but like others, we labor under the difficulty already stated, on the authority of his friend, former student and co-professor, who says, "His early life was unknown to his most intimate friends." With a tolerably intimate acquaintance we never heard, or heard of him alluding to his boyhood, or to the fact that he had ever been a boy; yet at middle age he was as cheerful as a boy.

At page 276, vol. 2, *Dental Cosmos*, we find some statements from the pen of his intimate friend and co-professor Dr. Cyrenius

O. Cone. He says: "Dr. Chapin A. Harris commenced his medical studies in 1820, and began to practice in 1823, in Ohio."

"His attention was called to dentistry by his brother John Harris, who like James and Chapin, became well skilled in medical theory and practice before engaging in the dental profession."

Dr. Cone also tells us that not till 1827, and then after studying the works of Hunter, Fox, and Delabarre, did Dr. Harris turn his entire attention to dentistry. He says also that between that date and 1833, he visited most large towns and cities in the Western and South-western States.

Prof. Cone also tells us that in 1833, Dr. H. opened an office in Baltimore, and continued there from that date. We don't know how to reconcile this with the statements of others that he settled in Baltimore in 1838.

According to Dr. Cone, Dr. Harris, in 1840, published a "*Monograph of the Physical Characteristics of the Teeth.*" And in 1841, a "*Dissertation on the Diseases of the Maxillary Sinus.*"

A very important publication by Dr. Harris was his "*Dictionary of Medicine and Dentistry.*" This work was voluminous, and must have required great and exhausting labor and research. It seems to have been less popular than *The Principles and Practice*, but we have always felt that it was not estimated up to its true value. The date of its appearance we cannot now recall, nor do we recollect how many editions of it have been issued. The first and second editions once held place in our library, but they have long since disappeared. It is quite possible we gave them to some of our pupils in former years.

Dr. H. also translated the works of M. Delabarre, thus doing a great work.

No other member of the dental profession called to his final rest, has received such eulogies, no other has elicited such praises, nor has the death of any other caused such a shock to the whole profession. In all these respects Dr. Harris stands pre-eminently alone. He had such a grand physical development, such great size, such manly proportions, such active and energetic mental faculties—in short, such an appearance of human grandeur that he always looked lonely to us; and the larger the crowd present, the lonelier he looked. Yet he was genial, cordial, suave, and companionable. It was within his power, and it seemed to afford him pleasure, to have newly found friends and acquaintances im-

mediately at ease in his presence. He was always conscious that he was by nature, a leader of men. His countenance and learning ever showed this; yet nothing like an overbearing disposition or haughtiness of spirit were ever noticeable.

The fine likeness which we present in this number of the JOURNAL we doubt not will greatly please our readers. Though fine and good it fails to set forth his dignity and grandeur of countenance. It shows his countenance at rest, rather than in deep active thought as we were wont to see it. Nothing is perfect; but it is believed by his special friends that this is the best likeness of him extant. For it and many facts and hints, we are indebted to our special friend and fellow laborer, Prof. Ferdinand J. S. Gorgas of the University of Maryland, who has our *most cordial thanks* for the same.

The best trait in the character of Dr. Harris is not yet mentioned here: He was a humble, earnest, consistent christian. Notice how much his dying hours partake of the character of those of the perfect pattern, the divine Savior. The same night in which he was betrayed, knowing full well that before another sunset his body would be in the tomb, that in the intervening period he would be forsaken by God, derided by man, that the scene would be so terrible, that the earth would quake like a coward and hide itself in darkness at noonday; yet as if he had no thought to spare for himself, he calmly says to the frightened friends with him: "Let not your hearts be troubled ye believe in God, believe also in me." In like manner we find the testimony of Dr. Harris, by one who knew him as well as one man can know another: See vol. 2, page 278, *Dental Cosmos*, and find as follows: "His reliance on the infinite wisdom and perfect goodness of his Creator was firm and enduring. It never forsook him for a moment in his long hours of unspeakable anguish while Death was calling him to the tomb, and the tears and prayers of his family were invoking his reprieve. Often did he implore his wife and his children to submit confidently to the will of the Supreme. He told them that God was their Father in a divine degree, and that blessedness would be theirs if they put their trust in him."

Religion is ripe and ready when the dying can thus strengthen the loved ones left.

METHODS AND MEANS.

BY C. EDMUND KELLS, JR., D.D.S., NEW ORLEANS, LA.

[Read before the New Orleans Odontological Society.]

To the zealous and successful practitioner the time must surely come when it will be a matter of concern to practically meet the exactions and demands to which his time and skill, and capabilities are called. Well is it for him, then, if in his earlier years, he has acquired a habit of systematizing all his work, even to the minutest details; for as time is limited to a certain number of hours of the day, no help can be found in an extension of that. Therefore, upon a system in method, and a system applied to the means at hand, in which we recognize the very best of expediting appliances, must he rely to help him out of his difficulties, and to both of these will I call your attention.

SYSTEM IN METHOD.—All operations upon the natural teeth may be divided into classes, and every operation of each class is performed exactly alike. One filling may require a little more or a little less of the material used, as the cavities vary in size and shape, but every detail is the same, and the same group of instruments is needed for each. Fortunately is this so, as thus fewer instruments are required, and that is an essential point to rapid work.

APPLIANCES.—It is to the appliances of a comparatively recent date and a system in their use, that the operator must mainly rely upon to increase his capacity for work. And what a blessing (tho' sometimes well in disguise) these are to the patient, for not only do they shorten the hours of discomfort in the chair, but reduce the pain and will allow the performance of operations, and the saving of teeth, that would otherwise be beyond the possibility of accomplishment.

Of primal importance are excavators; the writer using one dozen each hatchets and hoes, with which can be readily reached and prepared any part of any cavity. This limited number are separately grouped in their respective classes, always in their places when not in actual use and when broken are replaced at once. By certain known cone-socket handles are these two sets

of instruments distinguished. And right here let me state that we should be very grateful for the introduction of the cone-socket system, as these handles were a great innovation and step in advance of the old ones. By their use our instruments may always present a pleasing appearance to our patients, and the various designs allow of classifying our sets and readily distinguishing them.

Engine burs, by this systematic method, are needed in a few stated shapes and sizes and in those few alone. Six each, of round, inverted cone and wheel, three finishing burs and four spear drills constitute our set of cutting instruments, and any one of these may be selected in the dark so well is its place in the rack known. As fast as dulled or broken each is replaced from a stock kept convenient and always at hand, for no greater economy of time can be practiced than by discarding a dull bur, nor a greater waste of the same incurred than by being "out" of any needed instrument. Burnishers, polishing points and disks of various sizes, are of standard—our standard—variety and sizes in their places and in good order. The right-angle hand-piece attachment and its necessary points are indispensable to rapid work and always in a good condition as is possible for such a badly designed piece of workmanship to be. The cable—if a White engine is used—being liable to break, it is best to keep a complete duplicate arm, including hand-piece, cable, sheath and pulley head, that not a moment's delay may be caused by accident to the one in use.

The success acquired to-day by the operative dentist, is largely due to the rubber-dam, without which many operations would be, if not impossible, at least but imperfectly accomplished. The depressed dam is vastly superior to the plain in many cases, and those who do not use it are not aware of what a good thing they are missing, for not only is it more readily applied to the posterior teeth when its method of use is understood, but it is more agreeable to the patient and exposes the teeth to better advantage. There is seldom need of putting the dam on more than three teeth at one time and thus the discomfort of adjusting it, for that part I must admit is not pleasant, is reduced to a minimum. Once applied, but few patients I find that do not prefer it to the napkin or paper. Waxed silk floss passed completely around each tooth will remain without tying and the

tying is frequently the most painful part. Clamps are but very seldom called for and should never be used unless absolutely necessary as their adjustment is usually more or less painful. When the dam is to be used it should be put on at once, for thus is the patient placed more completely at our command and all unnecessary time wasted in talking, changing napkin and the hundred little devices of delay they love so well to practice are avoided. Indeed I do believe the dam will save in some cases one-half the time that would otherwise be required.

From the very many sets of pluggers for gold, found listed in the maker's catalogue, it is possible to pick some one, then another, and so on, modifying some and designing others perhaps, and thus obtain just the ones needed for our individual use. The fewest possible the better, is the rule that applies here as elsewhere. Of the methods of packing that material, it is well to be eclectic. The man who uses any one alone, to the exclusion of all others, is surely a misguided individual. Where hand-pressure alone is indicated, the mallet system will cause much unjustifiable waste of good dental tissue. The hand mallet has its sphere in which none other can come up to its level, but in other instances the power mallet—electric or mechanical—cannot be approached for speed, ease to operator and patient, and result obtained. Automatic mallets are but base imitations of these, their superiors. In the Herbst method can be found much good, if judiciously used, but it will always be merely *one* of the methods and not *the* method of packing gold.

Thus in our system we use that by which we can accomplish the best results in the shortest time and each class of cavities readily accommodates itself to its pre-determined method of filling and instruments needed for the same.

Non-cohesive or soft foil should be prepared before the arrival of the patient, which is possible as rolls, cylinders, pellets, etc., may be prepared in quantities when convenient and loss of valuable time when the patient is in the chair, avoided. Not so with cohesive gold, which should be cut and annealed as used, but fortunately that may be quickly done. Burnishers, trimmers, chisels and all other instruments needed are classified by their handles, and each individual one or set has its place and occupies it when not in use.

Not a small factor in rapid work is the pedal-lever chair, for with its positions so easily changed, no inducement is offered the

operator to retain the patient in the least bit uncomfortable position, which directly, by not exposing the work to the best advantage, or indirectly, by incurring unnecessary fatigue, would contribute to lengthen the time of the operation.

The screw-separator, of which the Perry is probably the best example, has become a necessity to him who seeks a "short cut through the field," and tho' it will not displace entirely the slower method of wedging by rubber, etc., it will frequently give us all the needed space and in a very humane manner.

A free use of the left hand is to be greatly desired, and should be cultivated by all who wish to become rapid operators.

All materials such as gold, amalgam, cements, dam, polishing tapes and powders, etc., etc., should be kept in quantities ready at hand that no delay may occur at any unfavorable time, by discovering at the moment of use that some needed article is not available.

Remedies, plainly labeled, should always occupy, each its own place, upon its shelf of the medicine case.

Electricity should play no unimportant part in our operating rooms. A push button placed conveniently to the foot will summon the assistant without a turn of the body or the loss of an instant's attention from work. The electric mouth lamp will discover hidden cavities or detect without fail the death of a pulp. In cohesive foil operations the electro-magnetic mallet is a most delicate and rapid assistant. The engine driven by an electric motor is at once under the most absolute control and a great relief to the busy practitioner. The battery question has always been a serious one as evidenced by the continual unsuccessful efforts of the manufacturers to procure one to meet all the needed requirements. The very general introduction of electric light and power stations to be expected in the early future, will prove a great boon to those who will avail themselves of the advantages to be derived therefrom. I will show you this evening, and with some little pride, which I hope is pardonable, an electric installation of my own design and execution which I believe is complete in all its details. The current is derived from the Edison central station. Two wires enter the office, one of which is tapped and the branch connected with and passing through a shunt of series of resistances, by which we govern the quantity of current and so reduce it that no damage may be done our instruments. This branch with the two mains are led to a

switch-board, upon which connections for the different currents are provided. First are binding posts for a 10 C. P. lamp, utilizing the full current. This lamp is in a parabolic reflector, and being connected by flexible wires can be placed where desired. Next is connected with the shunt in circuit, posts for the incandescent mouth lamp. Below these and in same circuit are the connectors for the mallet. Then the motor and its brake are coupled in this circuit into which is also cut in a movable commutator of a special and original design. The suspension engine, presenting some objectionable features to me, and the S. S. White engine, not being well adapted to be run by other than foot power, I have improvised a combination of the two which fully meets my requirements. And now for the working of this special plant: Standing at the chair, commutator under either foot, without movement of hand or body the engine is started or stopped instantly at will. The speed is regulated with greatest ease and the hand-piece, when desired, may be dropped from the hand without injury to itself or bur. Without an actual trial it will be impossible to form an idea of the time saved by this engine over the old foot-power. It is true it may be but a few seconds at a time, but that time constantly recurs during a long and busy day and in the aggregate amounts to quite an item.

Lastly will I enumerate a lady assistant as of the greatest advantage to the busy practitioner. Six months of the services of one led me to state that I could not be without one as long as my practice would justify the requirement. The hundred and one little items of expenditure of time she will save in the course of a day need but to be seen to be appreciated. Half a dozen or more needless interruptions from work at the chair, in the course of a morning, will waste perhaps a half hour. This is saved while dismissing patient at the door, chair is gotten ready and bracket cleared of instruments. Our next patient may at once be seated, and instruments previously used put in order during progress of operation. Thus not a moment is lost in waiting for office to be put in order. Amalgam is prepared, cement gotten ready, instruments placed at hand or removed, and in fact she is almost constantly busy in some time-saving service.

In closing, let me give you an idea of results accomplished through these methods and means. Upon striking of the hour, patient takes the chair. At once the warm-air syringe and creosote are placed on the bracket, and at the word the dam, punch

and silk are at hand. A large and deep cavity in a molar needs our attention, upon which the dam is placed, forty-five seconds being ample for that. With the engine, the proper burs follow each other in rapid succession. Cavity being deep and sensitive, lining it is decided upon, and the materials asked for, and as we carefully trim and smooth the margins with fine cut burs, they are placed at hand. Dropping the hand-piece the cavity is washed with warm water there waiting, bathed in creosote, dried first by spunk and then by warm air. Quick setting cement, glass and spatula being all ready, but a few moments elapse before the lining is complete while this is setting. All instruments not needed are removed by the assistant, and gold of shapes, sizes etc., as asked for, are placed in position. Pluggers are selected without any delay in looking for them and the operation of packing six grains of soft foil occupies but ten minutes. While polishing the filling, instruments and foil are removed, dam is removed and about ten seconds allowed the patient for a long breath, for two upper third molars are still to be treated. Napkins are adjusted so as to nicely expose one of them, and a small cavity is prepared on grinding surface. Foil is asked for, and while cavity undergoes its cleansing treatment, is made ready. Packing the soft gold herein is quickly done and the polishing, as no delays are encountered, requires not much more time. Patient is given another breathing spell, when napkins are placed around the tooth still remaining to be filled. But a few moments are spent upon this one before deciding to fill with amalgam and the same ordered prepared. By the time cavity is prepared, washed, creosoted and dried by hot air, amalgam is ready and the packing is proceeded with. As patient decends from chair we find we have used up the sixty minutes allotted her, and we are just in time to greet the one for the coming hour. And this accomplished without any haste or by the neglecting any of the time consuming details, such as the smoothing of the cavities with fine cut burs, applying creosote, using hot air, washing the amalgam. Thus it is that by the methods and means herein described, a day of nine hours is frequently spent without the loss, I believe, of five minutes in the aggregate, if we except from three to ten at lunch, which we are forced to admit is a necessary evil. And with all no hurry and its accompanying worry are necessary, and we hope and believe the highest quality of work achieved.

A QUESTION.

BY L. P. BETHEL, D.D.S., TOLEDO, O.

GREAT advancement has been made in the science of dentistry within the past few years. New devices of almost every description have been ingeniously constructed to facilitate our labors, new and valuable methods presented, and much knowledge obtained through experimental means. In fact there seems to be little lacking to assist the dentist in his daily operations. Yet, has this progress been all that could be desired? The work has been almost solely in the interest of the dentist, while little has been thought of the patient. To be sure the dentist should be thoroughly versed to serve his patient justly; but now that so much ground has been covered, would it not be well to institute say, another branch of progress, and let some of our effort be extended toward the patient? There is ample room for enlightenment here, especially among the younger members. Comparatively few parents look after the welfare of their children's teeth, and any amount of advice we can give them will not correct this fault. The child must be instructed as to the value of the teeth and the necessity of preserving and keeping them intact, and it is our duty to urge the means by which this can be successfully accomplished. Why not encourage its introduction into our kindergartens; let it be a progressive study in our public schools and taught according to the mental capacity of the pupil; becoming in the higher grades a prominent feature in the study of anatomy, physiology and hygiene? With the aid of suitable charts and helps, much good could be accomplished in this way, especially if the superintendent and teachers were empowered to occasionally advise the students to have their teeth thoroughly examined by a competent dentist. Parents neglect these little duties, as every-day cares bring other thoughts to their minds and often it is not until the child complains of an aching tooth that their attention is drawn in this direction. Perchance it is then too late to save the afflicted member, and its loss is felt throughout the lifetime of that individual. If we are working for the good of humanity, we must, as far as it is in our power,

cultivate the appreciation of the natural teeth and the necessity of having them properly cared for. And this can only be accomplished by combined and earnest effort.

PERIOSTITIS AND NECROSIS OF THE SUPERIOR MAXILLA—A CASE IN PRACTICE.

DR. J. FREMONT BURKET, KINGMAN, KANSAS.

WHAT proved to be an interesting case came under my care some months ago. I was called, in company with the family physician to see a child seven years of age, suffering with typhoid fever. She had been sick four weeks. At the end of the second week, the left cheek began swelling. Her fever kept her in a semi-conscious condition. For some time she did not speak, but continually worked in her mouth her tongue and fingers.

About a week from the first symptoms of inflammation she worked out a tooth, the superior deciduous first molar. Two days later her physician extracted the deciduous second molar, the roots of which were not absorbed. These teeth were somewhat decayed.

When I first saw her the left cheek was greatly swollen, red, and glossy. Her nose and mouth externally were sore and scabby, her mouth was in an extremely fetid condition. There was a large hole in the inside of the cheek, that, together with the gums of the left superior maxilla, were sloughing off and discharging fetid pus freely. None of the permanent teeth, excepting the incisors, had yet been erupted, but they could be seen through the orifices where the deciduous teeth had been extracted. A careful examination showed the first bicuspid to be loose and rolling in its socket. Extracted it and found the root completely absorbed. Its extraction was followed by a copious discharge of pus. In a few days I extracted the second bicuspid, the roots of this tooth also were absorbed. The swelling and inflammation were subsiding somewhat, but the fetid pus was being freely discharged. Necrosis of the maxilla had developed and in a short time the bone lay bare between the lateral incisor and molar. As soon as she had sufficiently recovered from the fever, she was brought to my office for treatment. On her first visit there was

considerable inflammation, a free discharge of pus and fetid condition. On the second visit the necrosed bone was a little loose. My record for the next six visits shows but little change other than the gradual loosening of the bone, the subsidence of the inflammation and the pus discharge, and disappearance of fetor.

On the eighth visit extracted the cuspid and first molar, the roots of which were partially absorbed. I then removed the exfoliated bone. It consisted of a part of the anterior surface of the body of the maxilla, one inch in length and of irregular width, about three-fourths of an inch at the widest part, and the alveolar processes from the left lateral incisor to the second molar, comprising the floor of the antrum. The disease made no further progress and all the parts healed nicely.

The origin of the disease was evidently in the periosteum of the maxilla, as is indicated by the absorption of the roots of the permanent teeth. For the cause we must look to the condition and constitution of the patient. It was at the period of second dentition, when the body, naturally delicate, was debilitated by a malignant fever. In some respects namely, its comparative painlessness, and the time of its occurrence (commencement of second dentition, and in connection with a fever), it closely resembles that rare form termed by Weber and Salter exanthematous necrosis. The exceptions in this case are that it did not follow an *eruptive** fever and it affected the *permanent* teeth. The most remarkable feature of the whole case is the complete absorption of the roots of the permanent teeth; few similar cases ever having been recorded.

*Is not typhoid an eruptive fever?—ED.

NOTE.—The long severe illness of the editor resulted in this paper being delayed.—ED.

ILLINOIS STATE DENTAL SOCIETY.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S.]

THE twenty-third annual meeting was held in Y. M. C. A. Hall at Jacksonville, Ill., beginning May 10, at 9:30 A. M.

THE PRESIDENT'S ADDRESS.

DR. MAGILL said: It is not my intention to give an exhaustive resume. We came here to better acquaint ourselves, to ele-

vate ourselves, to exhibit inventions of our skill, etc. Of the nine hundred dentists practicing in this State, only one-seventh are members of societies. How many young men, and older ones too, have passed through our dental colleges and settled down to work but do not become members of societies, nor inventors, and neither do they go deep into research for knowledge that comes through experimental study and scientific investigation. The reading classes are watching our movements and though their criticisms may be severe we should be able to withstand them.

The past year has been a notable one in the progress of dentistry. Made notable by the visit of Dr. Herbst, of Germany, the operations of Younger, the introduction of the Knapp blow-pipe, the instituting of the Meharry Dental College for colored students and the introduction of two new magazines in the field of dental literature, *The Dental Review*, of Chicago, Illinois, and *The Western Dental Journal*, of Kansas City, Missouri. Many dentists do not take any dental journal and how many only one. Each practicing dentist should take several different journals to keep up with the progress of the profession.

As no special excellence can be obtained without labor it would be well for different ones to take up some special branch and pursue it. If you have an idea in any one direction follow it out as have Black, Younger, Harlan and others. There are other fields of investigation yet unexplored that need your efforts and we hope for good results in the future. One of the greatest evils is doing cheap work. There is no necessity for it; in every community there are many who want dental work done and are willing to pay for it. The dentist who makes an effort and tries his best is the one who succeeds.

AN ADDRESS OF WELCOME

in behalf of the citizens of Jacksonville was then given. Among other things the speaker said: We are glad to extend a hearty welcome to one and all. We are of the opinion that we have some claims to this privilege. A city whose financial standing is sixth in the State, having six schools, twenty churches, a large Y. M. C. A., with the three of the largest State institutions in the world, and monuments of wealth on the north, east, south and west. In behalf of these things and others I have been requested to extend a welcome and freedom of the city of Jacksonville to you all.

The President, DR. MAGILL, said: In behalf of the Illinois Society allow me to return you thanks. We have come here on account of the points of interest and beautiful surroundings, on account of the easy access, and particularly on account of one of your esteemed friends here that we may see what he has seen through the microscope.

THE COMMITTEE ON SOCIETIES

reported that four new societies had been instituted within the past year. The *Eastern Illinois* with twenty-four charter members, only five of whom had been active members of any society before; the *Northern Illinois* with thirty-four charter members, of whom only five had previously been members of a society; the *Southern Illinois* with twenty-four members, two only having been connected with societies; and the *Western Illinois* with forty-one active members, of whom twelve had previously belonged to a similar organization.

CULTURE OF MICROBES.

DR. BLACK gave several talks upon this subject. Among other things he said: I talked about this subject considerable last year and it is a question what to take up this. I have decided, however, to take up the primary principles in the culture of microbes. The subject is young and new although it has been in progress for years. It is still new on account of the difficulty of, and antagonizing ideas on, the study. These have grown up with the men and become a part of their nature. When I look upon it it is surprising to me to see that so much progress has been made. Until recently we were dependent upon three or four foreign laboratories for our instruction in this branch, but now progress is being made on this side of the Atlantic with promising good results.

If I take a piece of meat and lay it out in summer exposed to the air, you say the meat will spoil. I say no. If I take meat broth you say it will spoil; I say no. Thus I might go on with a whole lot of unstable materials. They do not spoil themselves but are spoiled by something that does not belong to them. Chemical force, the result of a chemical action, brings stability. A salt once formed remains a salt so long as it is left alone. We have then, in this world made up of materials sixty or seventy

different elements, and affinity is formed where these are brought in contact. What are the disturbing elements? Light, wind, heat, changes in temperature, etc. Various forces tend to disturb chemical relations the principal one being light. What this is we have not determined; we say it is a force. Light is different from all the other forces in that it brings elements together, gets control and handles chemical forces at its pleasure. Let us take an example in the dog. He can go about and gather up materials for his uses. He finally dies; nothing but the carcass is left, but this would remain as it is to the end of time if no other life began there. We say that carcass spoils. No it does not. Every time we have a change we find a growth. Not a chemical change but a living growth. These growths are converted from higher to lower forms of life until dust results. Here is some broth that was exposed to 90° F. for a week, but there is no growth, hence, no change. Here is another tube of broth which you say is spoiled. Certain plants are there. A wire was passed back toward the root of the tongue and put into the broth, one or two days ago, and the growth in this tube is the result. Now about plants by the gelatine mold. I want to show you some of these growths if the weather is not too hot. A good many plants are destroyed by heat. In getting a gelatine growth it is necessary to grow the plant in gelatine just as near the softening point as possible yet not get a softening.

He here explained the apparatus for microbe culture. It consisted of a double chest, with rack inside, so arranged that water surrounded it, and by means of a gas jet the temperature was kept at that of the human body. In preparing the plants for examination he got the growth in broad tubes and from these he transferred a portion to the plates, previously passed through the flame to destroy all micro-organisms that might have adhered to them. The plates were then placed separately on shelves of the rack, which were covered with blotting paper saturated with a solution of bichloride of mercury, and left to develop; each cell having been isolated from the others. In the tubes he used cotton stoppers so that the air could pass back and forth yet any particles or growths would be held by the cotton. He then exhibited some plants taken from the inflamed mucous membrane under a rubber plate, and said: Why should mouths become sore under plates? When the plate is in the mouth this growth increases and as these microbes cling to rubber plates more than to metal,

we have more under rubber than metal plates and consequently more irritation. They are acid in reaction as the oral coccus, sordes coccus and gelatine producing coccus, which produces the cheesy material in polypus, etc. All produce acid products wherever sugar is present. In planting, the microbes are generally so thick in the first tube that the colonies run together and therefore one and sometimes two and three dilutions are necessary to get good results. His mode of transferring the growth was as follows: A small platinum wire was heated to a glow to prevent any danger of infection, then two tubes were taken, one containing the growth, the other pure broth, and the platinum looped wire inserted into the plant tube, then into the broth, which was then thoroughly mixed. He further stated that microbes would be of different shapes and colors. If it is sores it will be a transparent affair with just a few little spots like a drop of oil in water. We have as many kinds of microbes as we have families of the organisms. The best plan to get the growths is in broth first and transfer to the gelatine. He here showed specimens of different kinds he had planted, one of which was the pus-former and demonstrated the danger of pushing them up through the apex of a devitalized tooth root. In another talk he said that the lungs were good cultivators of micro-organisms as most all of the microbes that would grow in liquids were floating in the air and in breathing we take them into the lungs. These microbes differ in different localities and everywhere we find residents, and tramps or visitors, but the residents are the ones we wish to deal with, for the others, although they may thrive for a while, are eventually pushed out. The morphological differences in micro-organisms consists in their mode of growth. The coccus is a little ball or sphere, but mix them all together and you cannot tell one from another. Some grow forming a line, others in two directions, and still others in three and four. Some form a sheaf. There is one quite important form that grows in the mouth which in one condition will produce alcohol. The cells are one-fourth as large as those in yeast but round. Then we have the caries fungus and younger growth, which on examination we find to be very like lactic acid and Miller is probably correct in his theories.

REGULATING APPLIANCES.

Dr. Norman J. Roberts being absent, his report was read by Dr. OTTOFY. A brief synopsis of which is as follows :

The forceps properly applied are the best regulators in four out of five cases, and the removal of the first molars will most always prevent irregularities. Use the forceps first and only resort to other means when these fail. We have no teeth developed independent of the maxillary bone and the child may inherit the small maxilla of one parent and large teeth of the other, when to all appearances those teeth must come down in a most irregular way, yet extraction of the first molars may be all that is required to remedy the irregularity. Again, we can do much regulating without even the use of the forceps by pressing on erupting teeth, etc., but I shall not discuss these plans any farther but limit my remarks to recent appliances. What the profession desires is the simplest effectual appliance possible. Most dentists think regulating a nuisance and would send their patient to some competent dentist, if possible. Some men can invent bands and screws to use themselves, but others who have not had experience cannot do this, so the spring regulators lead in favor. One must be a fine workman and have much time, to make these appliances successful.

By experimenting I found black rubber an excellent article to use; that I could get fifteen pounds pressure with this where piano wire only yielded three and one-half. I assume that you all know how to make a black rubber plate with a shoulder. Small screws are inserted in the plate opposite each tooth to be drawn into line, and a ligature slipped over the teeth and fastened to these. Or where the teeth are to be forced outward, the plate is sawed into on each side of the tooth, so that when the screws are tightened they press on the teeth and the elasticity of the rubber keeps forcing the teeth outward. In rotating teeth it is sometimes difficult to get all the force you want with rubber, and then springs can be used. These should be placed in holes so that they cannot get out of place. Where the upper teeth are to be brought out over the lower, or the lower teeth inside the upper, the plate can be made with a black rubber cap on either side to fit over the molar teeth, and a screw placed on the outside of each. This acts as a masticating surface, yet keeps the teeth apart, and by means of a band on either side keeps the appliance in position. This cap might be made of platinum if thought more desirable. The cylindrical headed screws should be used and not allowed to extend far into the mouth. If the rubber forces on the gum and is inclined to irritate, a small band of

cement can be placed at the margin of the gum to prevent it. All the necessities for such a regulating appliance are screws, thin platinum, rubber bands and black rubber.

DR. E. S. TALBOT: I think more irregularities are caused from extraction than in any other way. I have given this my close attention for the past three years. We know that the jaw is composed of two parts, the bone proper and the process. The true bone is solely for the attachment of the muscles. The process for the purpose of holding the crypts of the teeth while forming, and the retention of them after eruption. The jaw and teeth grow independent of the process and this process forms itself to the relations of the teeth. The teeth erupt and the process is built around them. If the second teeth are extracted early, or the pulps destroyed in the first set, we shall have contraction of the jaw and the teeth will become set in an inclined position. If we extract the molars too early, the teeth come forward. If the first molar has been removed you will find the space narrower by one-eighth to one-fourth of an inch, according to the time it has been out, than on the other side. When we look around and see how many we have extracted, we can see what irregularities we have caused. I believe in retaining all the teeth I can and only extract where I have to, for the permanent teeth work forward so the others cannot get through. Where the cuspid cannot get down on account of the first bicuspid having worked forward, I would remove the bicuspid. I can see but one objection to the screw appliance of Dr. Roberts, where the screws are applied evenly it seems as though it would be impossible to retain the plate in a fixed position in the mouth.

DR. G. V. BLACK: I have one case that illustrates this idea of taking out the bicuspid to make room. Let me say this; that if you do this, utilize that space at once and do not let it go. I had a patient go away for a year or so and the space completely closed without doing any good. Premature extraction in very many cases gives rise to irregularities. Shall or shall we not extract to make room? We should be governed not by the irregularity of the teeth or size of the arch, but by the features of the patient, especially the profile view. If the face is flat we should enlarge the arch. If the features are too prominent then we may extract without fear of any bad after effects.

DR. KITCHEN cited a case where the centrals were prominent

and large, the arch crowded and lip stretched. He said: I took out the first bicuspid. I then found on closing the jaws that the lower teeth passed behind the upper, all but a lateral, which caught and caused a pushing out of the lateral and pushing in of the central. I filled phosphate cement in the cusps of the molars, to keep the anterior teeth apart, and in a few weeks the irregularity was corrected.

DR. G. V. BLACK: I do not think it necessary to keep the molars apart to get a central or lateral over the under teeth. I have passed wire around them and used silk ligatures but nothing else.

DR. GARRETT NEWKIRK: I have used the rubber dam instead of wire and silk ligatures. I am opposed to the idea that the majority of cases of irregularities could be prevented by extraction, a more false idea could not be formed. It does look sometimes as though it would be a benefit, but it is a misleading idea. The dentists do not look ahead; they only look at the present. No person is competent to take a case of irregularities who has not studied the relations of the temporary and permanent teeth and know what changes are to take place other than the present. I agree with the statement that the alveolar process is created and exists for the purpose of covering the roots of and protecting the teeth. It is a great mistake to think that the extraction of the temporary molars, which should remain longer, will make room for the permanent teeth and that the space will remain as it is. The jaw shrinks every time and the space grows less for the incoming teeth. Doctor Roberts says that the simpler the appliance the better, which is true, but he has not carried it out. The thickness of his appliance is too great. I would prefer to make several plates for regulating different teeth, rather than try to make one do for all. I would move the bicuspid first and then put something in to move the lateral, and so on. I would not advise inserting screws, for I think they are too severe on the tongue of the patient. It is necessary to have a clean, smooth appliance and I would rather make half a dozen plates and have the patient comfortable than one plate that would make them miserable. The bands about the teeth are also too heavy. You have got to make an enormous separation and how are you going to do it?

DR. STEVENS: I presume I must defend Dr. Roberts as he

is not here. My impression is that Dr. Roberts did not mean the temporary teeth at all; and these casts were undoubtedly intended to show the appliances that should be used successively, and not try to do all the regulating at one time.

DR. EDMUND NOYES: When a space is made by the premature loss of a tooth, the posterior teeth move forward and the anterior ones move back a little, but only in the proportion of about 4 to 5, but it is some. He here cited a case where he had extracted and the arch became somewhat flattened in front.

DR. F. GARDINER: There are cases where extracting is better than regulating. In making bands I use german silver, half round, and attach the band with silver solder.

DR. MILLER: We agree with the general principles here, yet when we go home there will be very few who will not extract. Take a case of abscess where the process is being affected and we will extract. There are times when we must extract whether other teeth come in or not. In regulating I have had difficulty in getting patients to wear these plates. I have been successful in rotating with gold bands. I use the gold half-round and solder on a little loop to put the wire through both ways. Do not make them too stiff. I like these better than plates. I do not take a case of regulating unless I have confidence in the patients and know that they will persevere in wearing the appliance.

DR. REID: In making bands I have used nickel and find it much better, all things considered, than other materials. The nickel can be obtained in flat pieces at any jewelry store and rolled down to the required thickness. The bands can be shaped and soldered with soft solder. It is just as good as the others and much easier made.

DR. McKELLOPS: Can you prove it?

DR. REID: Yes, I can.

DR. McKELLOPS: It is easy to criticise some one else's apparatus, but bring one in yourself that is better. This is a matter that should be looked after. He here related what Dr. Keely demonstrated at the Mississippi Valley meeting and said: The gentleman who spoke a few moments ago said you could not draw one tooth in and push another out at the same time. Dr. Keely does it. Sometimes the cavities are large and the material soft, especially on the proximal sides of the molars; you have to separate to get at them and then cannot fill properly, and in a

short time they will have to be filled again. In such a case would it not be better to extract one of the teeth and thus get at the other cavity, and also let the other teeth come down into line? Dr. Patrick's band is good when properly used. I take gold coin and roll it out for bands. Do not get base metals around for fear of getting them mixed with the gold. A little carelessness in this may sometimes do a great deal of harm.

DR. NEWKIRK: I am afraid I get myself misunderstood quite often. Let me say that I object to extracting as a rule, but occasionally good can be done by this method, but only occasionally.

(To be continued.)

NORTHERN OHIO DENTAL ASSOCIATION.

TWENTY-EIGHTH ANNUAL MEETING.

[Reported for the JOURNAL by W. H. Whitslar, M. D., D. D. S., Youngstown, Ohio.]

RELATIVE DUTIES OF PATIENT AND OPERATOR.

BY J. W. LYDER, D.D.S., AKRON, OHIO.

THE first and perhaps the most important duty of patient to operator is honesty. How great the chagrin, when after careful and laborious efforts to save a tooth, you find your patient has wilfully misinformed you when questioning for a diagnosis. If the truth had been presented, after troubles would have been many times prevented.

The duties devolving upon a patient are many, but not stopping to enumerate all I will call your attention to a few of the more important ones that they, as patients, owe to us. Cleanliness and frequent examinations of the teeth, a more decided and general understanding of dental education, a knowledge of the destructive action upon general health by the retention of bad teeth, and a most important duty, which should be imperative, that of keeping engagements. An important duty of parents is to put their children under our care at a very early age and also to obtain a knowledge of the development and usefulness of the sixth year molars. Patients should know more about the great

disadvantages of artificial dentures; it would cause them to be more prompt in having their natural teeth saved. My next reference will be the duty of operator to patient. Perhaps the first duty devolving upon us is one of respect to those who gave the profession its greatest impetus, and with pride and sincere regard I repeat the names of Hunter, Maury, Bell, Tomes, Kolliker, Townsend and Harris. It is important that our toils and energies should be of such a form as to characterize their estimable value as predecessors. Theirs were lives of study and labor; our duty should be renewed to-day by researches in the field of science and education; striving to bring up the standard of the profession instead of lowering it. Be industrious, faithful and add dignity by your daily walk and conversation. More direct duties to the patient are cleanliness in person, clothing, office in general, instruments in particular, spittoons, napkins, and all appliances used. One minute remark, but of great importance, is to keep your finger nails clean.

Our duty to do the best we can for our patients is imperative. Being employed by them it confers a favor upon us and we should subserve their interests to the best of our ability. When a patient's knowledge is limited as regards the care of teeth it is our duty to instruct them the best we know how. Our advice, in the majority of cases, may seem worthless, but mistake not, thoughts are gratefully received, weighed and returned to you as glittering gold. Children are to be our future patients, therefore deceive them not under any circumstances as the proceeds of their patronage will buy the "staff of life," *i. e.*, bread; aye more, the "gold headed cane," *i. e.*, bread and butter.

Post yourself well on the teeth and be competent to care for the valuable treasures when called upon to do so. Allow sympathy to predominate among your many office characteristics, and above all do not allow roughness or a temper to master you. Another duty, is not to cut prices for the sake of patronage, for, as soon as you commence such a debasing work, it shatters all of dignity, manhood, sympathy, ability, all the social and professional relations, that ever existed.

Again, it is our duty to teach patients and in as simple a manner as possible, (for the use of technical terms in profusion may often cause you to be held in a bigoted position,) and what is told them thus is of more value than the work you may

have done for them. Diagnosing plays a very important part in our teaching, and nothing, perhaps, requires so much study at our hands as to be thoroughly prepared for this undertaking, for therein lies the secret of our success. Always be thoughtful concerning the comfort of your patient, and especially so in long operations. It will be noticed. Many times they place their hands to the back or side which indicates discomfort that may be allayed by a slight movement of the back or head-rest of the chair. In no case should an adult patient be kept in the chair more than three hours and children from one-half to one hour, according to age and sex.

DR. E. J. WAYE, Sandusky, said that he could heartily endorse all that has been said, but he doubted if that was all. To the thinking man we have mutual duties. In the past and the present time dentists, some of them, don't show honesty in their work, and not only in that but in the examinations of teeth. We should ask ourselves, "What would I have done if I were in the patient's place?" We should do for them just what we would want done for ourselves were we in their situation. Our patients are of the more intelligent class and appreciate our regard for their benefit. No matter how good a filling may be made, if the same conditions exist as did before the filling was made, decay will commence again. We offer advice, but it is not always taken because of circumstances that the patient cannot control. If patients cannot afford the best, use the next best that you can, and what is done, do in the best possible manner, and then no responsibility can be laid upon the dentist after he has given careful advice about the care of the teeth. Young men starting in their professional career should secure the confidence of the patient and show that his interest for the patient is paramount. Every vicinity has its own peculiarities. Collect bills promptly. Often artificial dentures, when paid for, fit perfectly.

DR. J. E. ROBINSON, Cleveland: I cannot add anything to make the paper better, it covers the whole ground. The duties of patient to the operator are as great as those of operator to patient. We should educate our patients to trust to the operator as to the best kind of an operation to be made. As a rule, we as dentists, are better judges than the person to be operated upon.

DR. GEO. H. WILSON, Painesville, said that a few words would express the relative duties, and those were found in the

Golden Rule. From every day practice he found that we cannot always *gain* the full confidence of all our patients. They sometimes fail to follow our instructions. We should strive to educate.

DR. J. STEPHAN, Cleveland: We are servants to the suffering public, and we gain their confidence by strict honesty. With patients who cannot afford the best work done, sometimes we trust to their belief that such is the case, I try to put their teeth in good condition, and from time to time make good operations with reliable fillings and thus in the end they have the best without noticing the cost. Don't deceive children; it is a shame the way parents deceive the child when brought to us, by saying that "It won't hurt." I advise the use of tooth powder and recommend brushing the teeth before retiring and after breakfast.

DR. E. W. POOLE, Cleveland, said that every dentist must have experienced Dr. Lyder's sentiments. Cleanliness is the one word that must prevail. Operations often give better satisfaction when paid for. When a patient comes into the office to have a tooth examined he does not examine all and suggest having other work done because "it smacks too much of asking for a job." Patients do not always do their duty to the dentist by failing to keep their appointments.

DR. CHAS. BUFFET, Cleveland, said it was a better rule to mention that there was other trouble when it was unknown to the patient. Many of us know better than we do in our duty to patients. Sometimes we haven't enough of brotherly feeling. Have a feeling of humanity—cultivate this and it makes us better able to do. Our patients are sometimes looked upon as strangers, and pecuniary wants lead some to do not as we should.

DR. WAYE said that one reason why so many lose their teeth is through ignorance of taking care of them. We reach only a small part of a community with our instruction. How shall we reach them? Now I think there is a kind of advertising that might be advisable. For instance, a little paper or pamphlet containing advice that would be good for the people would be advisable, and there would be no harm in stating who issued this circular by having name and place of business on the cover. We should charge for examinations of teeth. It is information that is asked for and we give it, for which a fee is right.

DR. W. P. HORTON, SR., Cleveland: Dr. Lyder in the words

he has used has covered the whole ground. In the most enlightened community in this country (Boston) the masses are entirely ignorant of the care and preservation of the teeth. People in this city are grossly ignorant as to their duty. A physician stated that gratitude was a part of a disease until the patient was cured. The patient when sick had much gratitude for the doctor, but when well somehow it all left him.

It is difficult to impart good to those who are not true to themselves, and to the operator, from failure to recognize the ability of the dentist, and, the belief that dentists are exorbitant. Gain confidence. Be in position to know you are right, then go ahead. If you temporize you will be beat, because people are coming and going. A reasonable bill is that which you believe to be fair. We have different views of ethical matters. Objects to ethics among grown up educated men. Every dentist has an outside pressure, *i. e.*, school children terrifying other ones when they learn that one of their number is to have an operation performed. Gain their confidence. Some people will always find fault. We should keep records of our work to avoid mistakes and wrong impressions patients have sometimes, long after the work has been performed. Send bills every month, short settlements make long friends. An elaborate description was then given of the manner of using the tooth brush.

DR. F. S. WHITSLAR, Youngstown, O.: No labor expended in fitting ourselves the better for benefiting the race goes without its appropriate reward, nor should it. "The laborer is worthy of his hire" was spoken eighteen centuries ago, and is as true to-day as then. Duty, not avarice, should be our watchword, duty everywhere and under all circumstances, cost what it may. Our duty is a specialty, and those patients that submit themselves to our care are not in the aggregate supposed to be familiar with the duty that our knowledge enables us to possess, therefore let us make no assumption; but simply and purely, with a fervent desire to rightly instruct, to affiliate the confidence of each other, seeking unity, this gained, a great point is gained toward the end sought. Prove to your patient the difference between *guessing* and *knowing*, and you will surely receive your reward.

DR. CORYDON PALMER, Warren: I hope you will excuse me. I have been retired for the past few years and hardly know what has been going on.

DR. C. CARROLL, Meadville, Pa., said that he endorsed Dr. Lyder's paper. I see very few faces that used to meet with us in this society twenty-five years ago. Have I gone into a new generation? The first dental meeting I ever attended was that of the Northern Ohio. Good operations were scarce twenty-five years ago, but now they are everywhere. Literally, a tooth that is perfectly clean will never decay. We do not instruct patients thoroughly, and fail to impress upon their minds the necessity of cleanliness.

DR. GRIFFIN, Ravenna, said that we should strive to have every appliance that would afford us the best measures to do our work, and do it with as little pain as possible.

(To be continued.)

Correspondence.

"I charge you that this epistle be read."

PLASTER VS. MODELLING COMPOUND.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—I had supposed that the great and self evident superiority of plaster over all other materials for taking impressions, had passed beyond the pale of controversy, and must say I was very much surprised to find there was yet one, and he a teacher—who could think otherwise. I refer to the paper by Prof. Dorrance in the OHIO JOURNAL for May, in which he advocates the use of some English modelling compound, instead of plaster. He begins by modestly stating that "one impression in every ten, taken with plaster is *fair* and one in twenty *good*—the rest being worthless." The absurdity and falsity of this statement is too apparent to need contradiction, he might as well have said, one in every thousand or million was the only good one, it would have been just as near the truth. By the way, the Doctor has a queer system of logic, he claims "one in every ten to be fair," and "one in every twenty to be good;" therefore two fair ones must make one good one. I don't see how an impression can be fair, it must be either good or bad. If it is not perfect, it is *bad*.

Now let us see if he does not, by his own words, show the plaster to be far superior at every point, to his favorite compound.

First,—he says “it is difficult to obtain an accurate impression with plaster, on account of the inequality of the tissues.” This is one of the main beauties of plaster, it takes a perfect impression no matter in what condition the tissues are and without disturbing them in the least. He does admit however, in the next sentence, that plaster is a good material “if handled properly.” I will ask if he considers his modelling compound, or any other material good, if not handled properly, and if plaster is not by far the easiest material to handle properly?

Secondly,—he states that, “in taking an impression with this compound to have the pressure in exactly the right direction or the mass will slide away from the surface, and the ruga lines be drawn, as though the fingers had been run through the impression.”

This state of affairs never exists where plaster is used, no matter how carelessly.

Thirdly,—he states some of the beauties of the compound, “When this compound is used, the impression about the necks of the teeth may be drawn, but can be replaced by an instrument,” which is all guess work and necessarily inaccurate.

Further—“You will find that where there is a space and the teeth are inclined the compound will be drawn out of shape,” and, “When there are teeth in the lower jaw, whose crowns approach each other from opposite sides, you cannot get a good impression with any plastic material, by taking it singly. The impression in such cases should be taken in two and sometimes in three sections.” Now if the Professor has not proven this compound to be a very inaccurate and unreliable material, I am very much mistaken. He talks of taking impressions in two or more sections, I don’t know his mode of doing this; but think it must be necessarily difficult, and inaccurate; even if it were not,—there is no necessity for it—because we have in plaster, a material that will accurately and perfectly take any impression at once, no matter what position the teeth may be in.

But the most astonishing statement of all, and almost incredible as coming from a teacher of dentistry, is that, “The modelling compound is not permeated with odors, and therefore can be used over and over again,” in fact, “gets better the longer it is used.” Bah! As though a thing must stink before it is too unclean to be put into the mouth. It is nauseating to think of it. Plaster can not possibly be used more than once, and the person

having this material inserted into the mouth, can feel perfectly sure that it has not previously done service in some nasty, old syphilitic, or otherwise diseased, or filthy mouth. If all other points were against instead of for it, this should certainly, be cause enough for its adoption.

INDIANAPOLIS, IND.

C. C. EVERTS, M.D.

"SOUNDS FROM CHICAGO."

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—The article in your journal entitled "Sounds from Chicago," deserves a little attention.

To begin with, who is "Stuart" and what does he know about teaching in the above college?

The article as far as it refers to the American College is one mass of deliberate lying. The college matriculated seventeen persons, with an attendance of nine regularly, several who are graduates in medicine taking only part of the lectures, intending to take a full course in the future.

We found three well qualified to graduate and conferred the honorary degree upon two old dentists; *not* "attaches of the college," one is a man who stands as high in the profession as any dentist in western Michigan, Dr. Thomas G. Rix of Dowagiac. The other is Dr. Lyman McIntosh, a retired dentist who is giving his time and talent to the science of electricity, and who was recommended highly by the best dentists in the city.

As to the teachings in the college we are willing to leave that to any disinterested parties. Our term of lectures commenced October 11, '86 and closed April 4, '87. No vacation during the holidays and if I mistake not, our term was one week longer than the other colleges in the city.

As to the ability of our lecturers, they are known as the best men in their respective callings in the city of Chicago, and ought not to be judged by a party interested in a rival college which has had no regular faculty for the past year.

Our standard is the same as that adopted by the American Board of Dental Faculties, and we are as rigid in our requirements as any school in the land, either east or west, we also adopted the same requirements for graduation as the colleges in New York, Philadelphia and Baltimore.

If you will give the above the same prominence you did the article we quote from, you will in part atone for the injustice you did in printing the Stuart article.

CHICAGO, May 20, 1887.

I. CLENDENIN, *Sec'y*,
American College Dental Surgery.

"POTASH ALUM."

TO THE EDITOR OF THE OHIO JOURNAL OF DENTAL SCIENCE:—
What is "Potash Alum" spoken of in the OHIO JOURNAL OF DENTAL SCIENCE, for April, 1887, pages 192 and 193?

ALEXANDRIA, VA.

D. D. S.

[*Potash Alum* is made from alum-stone (the mineral aluminate), and others of like nature, and from clay, by the action of sulphuric acid, which forms sulphate of aluminum. This is dissolved in water, and subsequently mixed with sulphate of potassium, which produces the double salt. The alum employed in medicine and the alum of commerce at this day, is the *ammonium alum*, now officinal (U. S. P.) For many years ammonia-alum was also principally used in Europe, but the potash beds of Stasfurt supply chloride of potassium so abundantly that potash-alum has superseded ammonia-alum even in England."—Lloyd *Chemistry of Medicines*.]

Compilations.

"Gather up the Fragments."

A SPECIALIST ON SPECIALISM.

THOSE of us entering practice twenty years ago found men plying medicine as a trade, regarding patients as the physician's private property, not to be trespassed upon by strangers, often controlling patients by appeals to their ignorance, fears and prejudices, and substituting in their own persons an acquaintance with the weaker side of human nature, useful for financial purposes, for an exact scientific acquaintance with disease, to be used for the benefit of their race. The specialist was the pioneer into this latter realm, and, like all such, was, too frequently, a martyr

to his cause. But he represented that majority which consists of one with truth upon his side, and, like all other such majorities in the history of the world, he has finally won his way to victory. The "elaborate division of labor" is "as useful and successful in a learned profession as it is in the mechanic arts," for the whole matter is a relative question of height of standard. General medicine itself is too often only special attention to such diseases as may prove rapidly fatal; and neglect, or often worse than neglect, of all other maladies. It is itself merely an abnormal, ill-defined specialism, substituting multa for multum, and, like the cuckoo, insisting upon the sole control of its illegally held habitation. Specialism substitutes quality for quantity, which substitution is the distinguishing mark of the civilized man from the savage; nay more, the essential criterion of advancement in civilization itself.—DR. EDWARD WIGGLESWORTH, *Trans. of Amer. Dermatological Association, Presidential Address.*

SIR JAMES PAGET ON SCIENCE TEACHING.

SIR JAMES PAGET, in distributing the prizes and certificates to the successful candidates at the London centre for the Oxford Local Examinations in the theatre of the University of London, said, in congratulating the successful competitors, that it was well for us all and for the world that life was a continual competitive examination, for on no other condition was it likely that men's work and knowledge would be equal to the range of their powers. Speaking of the respective merits of classics and science, he said, as a man of science himself, he was not prepared to admit that the study of classics or of literature was a more efficient instrument for the training of the mind's powers than the study of natural science. He regretted the small number of candidates who submitted themselves for examination in science, and thought the schools were making a great mistake in not offering greater encouragement to scientific studies. The importance of these studies was being more and more recognized in the universities, and especially in the University of London. He said the schools should take warning in time. Science must have its due position assigned to it in our schools, and masters must be appointed equal in power and position to any of the other masters. The number of persons of scientific attainments who were in request was constantly increasing.—*British Medical Jour.*

Editor's Specials.

"Write the Vision and make it plain."

IS DENTISTRY A SPECIALTY IN MEDICINE?

YES—and No! That is not much can be told about it unless standpoints and similar things are clearly defined. And possibly it may become necessary to call a mass convention and settle it by vote. Some things naturally incline to settle, but this is worse than a gas-bubbling spring. The agitation is becoming stronger and stronger. But in the very nature of things this cannot be endured. The question has got to be settled. Think of the deleterious effects on both professions (or both wings of the profession, if that is the way). To get the last half second of speed out of the fast trotter they give him a running mate. But instead, suppose they gave him a running mule. Would he care a straw for any display before the mule? Would he not more likely slack up, when nearing the "home-stretch," and, like our late army boys, shout "Here's your mule!"

On the same principle, can the medical profession make full, healthy progress unless sure of their accompaniments? Leave them still in doubt, as at present, whether these fleet-footed aside issue companions are "running mates," *i. e.*, physicians, running hybrids, *i. e.*, M. D., D. D. S., or simply a common herd, and they will probably retrograde more rapidly than they are doing now in reference to dental disease.

Then look at the deadly effect on dental progress. How can you get dentists to do their best unless they know what they are doing? Take one of our late dental pupils and the case becomes plain. Dr. O'Mehurra gets into a *handy* argument or dispute where he is not yet sure of his surroundings. He holds his own fairly, even though he thinks his disputant is only Mike O'Cleary. But a friend whispers that it is "Tom Allen" he faces, and he can whip him if he pushes the fighting. Now the young doctor felt gratified to have a friend present who believed in him, and he knew it was worth while to whip Tom Allen, by way of gaining a pugilistic reputation.

A kindred question has remained unsettled till the present hour. The man that thoroughly understood it was passing our window, and we asked him, and he settled it at once. He was carrying a jack-plane and a hand-saw. Said we, Is carpentry a specialty in surgery? Be sure it is, said he. Whenever a pair of crutches are needed, the surgeon, if not too awkward, borrows my tools and makes them. When not possessing sufficient ingenuity, as is usually and fortunately the case, he hires me to make them. Hence, you see the carpenter work has to come in.

But it is time to examine a little into the history of the teeth and the treatment they have received. And the first question that arises about the physicians and the dental organs is, have the physicians, since the dawn of medical science, done enough for the teeth and their kindred physiological organs to entitle them to professional association with dentists, or to even honorary membership in dental societies?

We were led to think seriously about the teeth by unbearable toothache. Not a dentist nearer than seventy-five miles. A physician barbarously, cruelly, awkwardly, clumsily and outrageously tore out the tooth with a cant-hook, with an augur handle fitted to it, and he called it a turn-key. We asked him if it had been invented by the Spanish Inquisition; but as the question seemed disagreeable we didn't press it.

Very soon after this we were enrolled as a medical student, and another circumstance occurred that again led us to a very serious study of the relations of physicians to the teeth and their appendages.

Unless we accept the statement from "Josh. Billings' Allmy-nax," worded thus:

"In Adam's sin
We all jined in,"

our first fatal fall was into the affections of a young girl with thirty-two teeth as pretty as pearls, and as true as a steel trap. Hazel eyes and Co. were above, and a sort of explosion, part wink and part smile—and—and—we began to think about her natural inheritance of fifty-two dental organs, and that by virtue of their structure and attachments they were capable, if neglected, of causing the severest pain known to the race, were liable to call for the most barbarous surgical operations described in the text-books, by virtue of their nervous connections, liable to

cause untold and unspeakable suffering, making life itself a burden too heavy for endurance. And what had medical science—all the physicians of the world—done for these organs? Done to help us shield her from these possible—yes, probable, and almost certain sufferings, for anything done or doing by physicians?

We didn't know the oldest physicians, but we honestly tried to find out what they had done for the teeth.

By two years of hard study we ascertained that, in a trifle of two thousand years or so, by combining with the surgeons, they had brought out the *TURN-KEY*.

That is about the size of it. Our medical teachers were the peers of their cotemporaries, yet any average professor in a dental college will tell more that is useful about the teeth in one lecture, than any of our medical faculties of those days told in a whole session.

Till dentists were developed, and instrument makers had followed their instructions, there is not the slightest probability that any one on earth had ever seen an instrument fit to use for extracting a human tooth. In most instances in which they used the turn-key, the case called for prosecution for malpractice. Aside from turn-keys we have looked carefully over so-called forceps, nippers, etc., by the thousands, on sale and in museums, and never did we see one we would be willing to use in extracting a temporary tooth, unless it had been made as directed by a dentist.

The Physicians, aided by the Surgeons, produced the turn-key. This is their *DENTAL MONUMENT*! a sign of the cross, it is true, but Oh, what a cross!

But many of these physicians are good fellows to meet with "in spite of their teeth." So, good readers, as they have given you a cordial invitation, you'd better attend their meeting. As we can't go, even by starting a little early, like the Dutch captain on his retreat, we depend on you heartily to do yourselves, and us honor. Make it a special honor to edit and publish a *JOURNAL* for such readers.

And if you must settle the vexed question, argue like this: As truly as morals is the science that makes for righteousness, so surely is medicine the science that makes for health. With humanity as its protégé, health as its aim, with the materials and forces of Nature, as they can be made available, for its instrumentalities—that's the size, and you are in. Your occupation, or

business grew out of the necessities of the situation, grew directly from the rightful and necessary demands of humanity from medicine. It grew when humanity had become too enlightened to be trifled with longer, and in answer to the fiercest, sharpest call ever made on the science. And the fierceness of the call explains the energy and activity of the answer.

But when you get up to the social ("International," perhaps it is called)—at any rate along with the physicians, don't forget you are medical men, but still remember that you are not of the same sort with them. And also *vice versa*. So, if they talk dentistry to you, don't you talk back gynecology; for two kinds of fools are not needed at a single meeting.

SELECTING STUDENTS.

YES, and preceptors to.

We have no sympathy with the sentiment so often promulgated that an office course is a disadvantage to a student. It is not true to nature. Our own experience in the ages of long ago, taught us that when a raw boy and an office expert met as students, the latter made a good month's progress by the time the former felt like a student.

We have been told less than seven hundred times that no student can be found whose hands can not be trained faster than his head. We can readily recall a student, who, by over two years in an office with the best of teachers, and two full college terms, had a head filled with knowledge far beyond the average dentist, yet he could barely make a gold sleeve button, and his hands made no gain in training. This was an exception, of course. Very few in the profession were so well educated, but for practicing dentistry, his hands might have as well been paralyzed.

Long ago Boards of Examiners aided the Faculty at the closing examinations in the Ohio Dental College. The votes were with white and black balls. We can not recall a case receiving the even hundred white balls who had not had a thorough office course. Four such, out of a class of eight were found at a single examination.

In all this we may be wrong. The preceptors may have

retrograded, and the colleges may have improved. We may have forgotten some, and, therefore, "don't now know it all." But be sure, boys, if you can't have good preceptors, have none. Good colleges—worthy of the best efforts of your manhood—too, or none. Botched work is bad enough. But *botched men*! Father in Heaven, save us!

THANKS.

WE are indebted to Dr. Barrett, the genial editor of *The Independent Practitioner*, for back numbers of that journal to complete our files.

Also, to Dr. S. A. Freeman, of Buffalo, for several numbers of the Transactions of the Dental Society of the State of New York.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

PROGRESS.—It can be truly said that the care of the teeth marks the progress of civilization.

TO ALLAY HYPODERMIC IRRITATION.—Liquid vaseline, or oil of Babouck, is gaining favor as a vehicle in the hypodermic injections of irritating substances such as iodoform, etc. As it is inoffensive, dissolves most of the antiseptics readily, allays irritation and does not prevent absorption of the remedy.

AMALGAM FINISHER.—In many places a narrow strip of rubber dam, used as a tape, will serve admirably for the purpose of smoothing down to the borders and polishing amalgam fillings on proximal surfaces of the bicuspid and molars, and is especially good for removing any particles that may adhere to the gum between the teeth.

WILL COLLECT DAMAGES.—Circulars are being issued and sent about the country demanding damages for infringement of letters patent covering the so-called bridge-work and other improvements by Jas. E. Low and The International Tooth Crown Company. They propose to proceed to collect infringer's profits and

damages at once from all dentists who have been infringing this patent, and to prevent them by injunction from future unauthorized use of the patent.

COCAINE DANGEROUS.—The true nature of this drug is slowly coming to light and the rational dentist will be very cautious in its use since so many authenticated reports have been given of severe after effects, such as partial and complete paralysis of certain oral and facial muscles, resulting from a single injection of cocaine not stronger than a 4 per cent. solution, and even death from moderate doses. These are enough at least to serve as a warning to those who have had a tendency to use it indiscriminately and we hope will be the means of inducing more careful administration.

ROOT CANAL DRYER.—One of the latest and best inventions for use in dentistry has recently been gotten out by Dr. J. H. Woolley, of Chicago. It is a root canal dryer and consists of a handle, similar to that of a plugger, to the end of this is screwed a cone of copper to which a copper broach of any size can be attached. The cone is heated in the flame until quite hot, then the instrument is ready for use; the heat being steadily conducted from the cone to the end of the broach. With it a root can be thoroughly dried to its apex. The instrument acts also as a disinfectant destroying as it does by heat, any microbes within the cavity. It has been highly endorsed by prominent dentists.

PROF. BARTHOLOW thinks *ptyalism* can be averted by giving atropine combined with the mercurial.

WATT'S METAL makes an excellent die for striking up gold-crowns by Dr. Melotte's method, using the Melotte metal for the counter.

SULPHUR DENTIFRICE NOT EFFECTUAL.—A. W. HARLAN says it is a mistaken idea that flowers of sulphur acts as a disinfectant when used as a dentifrice. It is totally inert for we do not have parasites here to deal with.

DEVITALIZING PASTE.—DR. KIRK highly recommends the following preparation for devitalizing dental pulps: R *Acid arsenios. pulv.*, *cocaine hydrochlorate* ãã gr. xx; *menthol crystals* gr. v; *glycerini* q. s. to make a stiff paste.—*British Journal Dental Science.*

PUMICE CARRIER.—DR. G. B. CLEMENT says, take any shape wood point and, when inserted and revolving in the engine, wrap it tight with a piece of absorbent cotton. This dampened makes a splendid carrier of pumice stone or powders.—*Southern Journal.*

DR. VAN LAIR, announces that a piece of India rubber tubing placed

between the two ends of a cut nerve becomes vascularized, the nerve-fibres are prolonged into it and finally the two ends of the nerve unite and the caoutchouc disappears.—*Dental Advertiser*.

NEW LOCAL ANÆSTHETIC.—A crystalline substance has been obtained in minute quantities from the rind of pomegranates, which when placed on the tongue or other portions of the mucous membrane paralyzes local sensation after the manner of cocaine.—*Pacific Record*.

BANDS FOR REGULATING.—DR. C. H. HARROUN suggests the use of piano wire flattened with a hammer, bent to conform to the shape of the tooth, or teeth, soldered with soft solder and vulcanized in the plate, as a simple and effective tooth band to be used for any temporary appliance.

TO HARDEN PLASTER.—DR. WINGATE advocates dissolving a little sugar in the water before mixing plaster, claiming that the cast will be much harder. Also the placing of a small piece of sheet zinc in the vulcanizer to prevent the formation of the black coating found on iron flasks and clamps.

PARALYSIS FROM COCAINE INJECTIONS.—M. MEWBORN reports several cases in which complete facial paralysis followed injections of cocaine into the gums to avoid the pain of extraction. The paralysis persisted for several days giving rise to great alarm to dentist and patient.—*British Jour. Dent. Science*.

TO PRESERVE THE PERMANENT MOLARS.—DR. W. N. MORRISON says he cuts away enough of the posterior proximal surface of the temporary molar to avoid contact with the first permanent molar when that member is erupted. By doing this it prevents three or four years of contact and probable decay.

A METHOD OF TEMPERING.—S. P. DAVIS in *Scientific American* says that a drill heated to cherry red and driven into a cold bar of lead will be much harder than when tempered by the acid bath. It is said that instruments thus treated can successfully be used for boring into the hardest steel and plate glass.

CLEAR SHELLAC VARNISH.—This may be prepared by making an alcoholic solution of shellac in the usual way, then adding a little benzole and shaking the mixture. In the course of a day or two the fluid will have separated into two distinct layers, the upper alcoholic stratum being perfectly clear which may be decanted or drawn off with a pipette.—*National Druggist*.

TO REMOVE RUST-STAINS from nickel-plated ware, the article is thoroughly greased, and after several days rubbed off with a cloth moistened with ammonia. If any spots are still visible they are touched with dilute hydrochloric acid and immediately rubbed off. The ware is then washed and polished with polishing powder.—*Pac. Rec. Med. Science*.

IMPURITY OF DRUGS.—DR. WILLIS G. TUCKER, analyst of drugs for the New York State Board of Health, in his recent report states that 194 samples were collected and examined; of these 49.2 per cent. were of good quality; they conformed to the requirement of the U. S. Pharmacopœia; 29.2 per cent. were of fair quality, and 19.1 per cent. were of inferior quality, some being entirely fictitious.

DISK CUTTER.—I take a No. 10 ($\frac{3}{4}$ in.) gun wad punch, and drill a hole up

into the centre of the shank. In this hole is driven a steel pin, the free extremity sharpened and on a level with the cutting edge of the punch. From a sheet of sand or emery paper, shellacked on the back, can be punched dozens of disks, perforated in the centre ready for mounting.—F. L. D. in *Archives of Dentistry*.

AN AID TO ARTIFICIAL RESPIRATION.—Bergmann executed a little maneuver that he places great stress upon; and that is, while his assistants execute rapidly the movements necessary for artificial respiration he introduces his finger into the mouth and holds up the epiglottis. He claims that this organ will often close down firmly and that manipulations are of no use unless one operates in this manner.—*Chicago Med. Journ. & Examiner*.

A NEW DISINFECTING COMPOUND for purifying the atmosphere of the sick-room has just been presented to the Berlin Medical Society. Oils of rosemary, lavender, and thyme, in the proportion of 10, $2\frac{1}{2}$, and $2\frac{1}{2}$ parts respectively, are mixed with nitric acid in the proportion of 30 to $1\frac{1}{2}$. The bottle should be shaken before using, and a sponge saturated with the compound and left to diffuse by evaporation. Simple as it is, the vapor of this compound is said to possess extraordinary properties in controlling the odors and effluvia of offensive and infectious disorders.

TEMPERING SWISS BROACHES.—DR. HARPER says divide the number of broaches into halves, then place together again, leaving half and half pointing in opposite directions; bind together with binding wire, drop melted beeswax over the bunch until the broaches are covered with the wax, then hold in a blaze until the wax ignites, remove from the blaze and allow the wax to burn off; let them cool gradually. By this process the broaches are nicely tempered without corroding their surfaces; they are flexible yet sufficiently stiff not to bend too easily.—*Archives of Dentistry*.

CORES FOR UNDERCUTS.—DR. MITCHELL says: In making cores for undercuts in cases where models will not draw from the sand, use ordinary flour to the extent of about ten per cent. in bulk with ordinary molding sand, or what is better, marble dust. Mix a sufficient quantity thoroughly, in the dry state, then moisten it a little more than for molding, fill the undercuts and trim to suit; jar out the cores and place in an oven or over gentle heat. When dry they can be handled nicely, replace them and mold as usual, they can then be placed in the mold, when a perfect lie will be the result, without any of the annoyance attending the operation incident to cores made in any other way.—*Dental Review*.

CHEAP TEETH MUST GO.—Contrary to the ruling of our government since its foundation, the Treasury Department has now decided that platina plate, wire, and even ingots is manufactured platina, and therefore subject to a duty of 45 per cent. ad valorem, making it almost double its present cost, and two-thirds the price of gold. Nine-tenths of all the platinum is found in the Ural mountains in Russia. Of course this means good-bye to the "dollar-tooth," though the porcelain in them may be good as the best, the platina required for their pins precludes the possibility of their manufacture. There has been less profit in them recently on account of the slowly advancing price of the metal, but this last blow crushes them completely. Will this advance the price of all teeth?—*Items of Interest*.

SWALLOWING ARTIFICIAL TEETH.—A correspondent of the *British Medical Journal* reports a case in which the patient swallowed a plate with artificial teeth, and safely passed them *per rectum* a few days later. Another correspondent says: "A patient of mine recently swallowed a plate (gold, with two teeth), and I immediately adopted a practice recommended to me some years ago by Sir James Paget in a similar case. I made him eat three good-sized slices of bread, and swallow four tablespoonfuls of flour and water made into a fairly thick mass. I then administered an emetic, and the teeth returned entangled in the tenacious vomit. I may add that the first case was equally successful, and that something of this sort is habitually done at police-stations when prisoners arrested for passing false coins swallow them.

EARLY DENTISTRY.—DR. E. P. BEADLES in answer to a question pertaining to the early history of dentistry replied as follows:

Herodotus, 500 B. C., speaks of physicians for the teeth. The Egyptians were somewhat advanced in the science, as many filled teeth are found in the mouths of mummies. Celsus, who lived 100 B. C., recommended certain dental operations. So remote is the origin of dental surgery, and imperfect the history of ancient medicine, that we cannot trace it with any degree of certainty.

It was not until 1728 that a systematic treatment on Dental Surgery was published; this was a book of some nine hundred pages, written by Pierre Fanchard. Then followed works by Burou, Lecluse, Jourdain, and others.

The first dentist in the United States, of whom we have any account, was Mr. R. Wooffendale, who came over from England in the year 1766. Mr. John Greenwood, however, was the first native American dentist. He practiced in New York about the year 1778.

Not until about 1820 do we find much progress in the science in the United States. From that period the advancement of dentistry has been marked. The first college of Dental Surgery was established in Baltimore in 1840. Since then, colleges have been established in all parts of the United States, leading the world in dental educational facilities.—*American Dental Journal*.

Societies.

"Wherewith one may edify another."

MEETINGS.

Kentucky State Dental Association, Louisville, Tuesday, June 7, 1887.

Missouri State Dental Society, Kansas City, Tuesday, June 21, 1887.

Indiana State Dental Society, Lake Maxinkuckee, Tuesday, June 28, 1887.

Wisconsin State Dental Society, Milwaukee, Tuesday, July 19, 1887.

Pennsylvania State Dental Society, Glen Summit, (near Wilkesbarre, Pa.) Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, July 26, 1887.

American Dental Association, Asheville, N. C., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 25, 1887.

Ohio State Dental Society, Springfield, Tuesday, October 25, 1887.

THE AMERICAN DENTAL ASSOCIATION.

DR. CUSHING sends us the following copy of the decision of the President in the matter of omitting the annual meeting. Personally we would much prefer no meeting at all to an unprofitable one.

CHICAGO, ILL., May 6th, 1887.

DR. GEO. H. CUSHING, *Rec. Sec'y American Dental Association*,

Dear Sir:—Your letter of April 30th, accompanied with a copy of a communication from Drs. W. C. Barrett and Frank Abbott, making a protest against the action of the Association, looking to the postponement of the regular annual meeting of the American Dental Association of the present year until 1888, and raising what they term a “point of order” as to the power of the officers under the constitution to do so; also your letter of more recent date with a statement of the vote upon the question submitted to the officers of the Association, is received.

As the question raised had not occurred to me before, and the existing circumstances are of more than ordinary importance, I have thought it best to take such time to consider the subject as would enable me to reach a correct conclusion as to the power of the officers to change the time and place of the Association's annual meeting; hence the delay in my reply.

It should be noticed that the gentlemen do not question the power of the officers to change the time and place of the meeting, provided, the time is fixed within the year 1887.

The authority that the officers have (if such authority exists)

to postpone the next annual meeting to 1888, is found in Section two (2) of Article four (4) of the Constitution. So much of the Article as in any way governs the question, and in which reference is made by the protestants, reads as follows: "TIME OF MEETINGS.—The regular meetings of the Association shall be held annually, and commence on the first Tuesday in August. The place of meeting shall be determined each year by vote of the Association.

Sec. 2. The officers may, for extraordinary reasons change the time and place of meeting upon the written consent of ten (10) of the fifteen (15) officers."

As Drs. Barrett and Abbott are not officers of the Association, and have no right to vote upon the question at issue, or upon an appeal from any decision made, I could not see clearly how they could raise a point of order. The question, it seemed to me, (for the time being at least,) was a matter that rested entirely with the officers of the Association.

The point they raise is valuable, however, as it has suggested a more thoughtful consideration of the question as to whether the officers have the power to *omit* a regular annual meeting of the Association, for if the regular meeting for this year is postponed until 1888, the meeting of 1887 or that of 1888 would, of necessity, have to be omitted.

Upon a careful reading of the article referred to, I became satisfied that an honest construction of its meeting forbade the officers postponing the meeting until next year. But before giving this as my decision, I felt that I should take counsel with some one in whose opinion the Association could rest with assured confidence.

With this idea in view, I placed the Constitution of the Association, and the protests of Drs. Barrett and Abbott in the hands of ex-United States Senator, Lyman Trumbull, and asked him to give me his written opinion upon the entire subject, which will be found in the following copy of a letter received from him:

"CHICAGO, May 4th, 1887.

DR. W. W. ALLPORT, *President American Dental Association,*
Argyle Building, City,

Dear Sir:—The authority of the officers of the American Dental Association to dispense with the annual meeting is one of power under the Constitution, and not a question of order as to

the course of proceeding which could only be raised by a member of the Association in one of its meetings.

In my opinion a fair construction of Article 4 of the Association's Constitution requires regular meetings of the Association to be held annually. While Section 2 of that Article authorizes the officers, for extraordinary reasons, to change the time and place of meeting upon the written consent of ten of the fifteen officers, I do not think it contemplated a repeal of the first section which requires annual meetings to be held; but was intended rather to authorize a change of the time and place of holding the annual meeting. My conclusion is that the officers would not be authorized under the Constitution to dispense altogether with the annual meeting.

Yours truly,

LYMAN TRUMBULL."

With the opinion of a gentleman of such large experience in, and accurate knowledge of, parliamentary proceedings, and acknowledged standing as an able Constitutional lawyer, I must accept his interpretation, and decide that the officers of the Association have no power to *omit* an annual meeting, and therefore direct that the vote just taken be not recorded.

Very truly yours, W. W. ALLPORT, *President*.

THE OHIO COLLEGE OF DENTAL SURGERY AND THE UNIVERSITY OF CINCINNATI.

THE following circular letter is self explanatory. As we disposed of our share of stock several years ago, we have not given expression to our views on the question. We presume, however, that the trustees have made the change, for in an editorial of the *Cincinnati Lancet-Clinic*, May 7, 1887, is this: "Among the schools accepting the University proposition we find the College of Pharmacy, Miami Medical College and Medical College of Ohio, Ohio Dental College and Cincinnati Hospital (clinical department)."

128 GARFIELD PLACE, }
CINCINNATI, O., April 19, 1887. }

Dear Sir:—Several communications have, within the last year, been received from the officers of the University of Cincinnati in regard to connecting the Ohio College of Dental Surgery with the University.

It is proposed that the Dental College be made a Department of the Uni-

versity, yet preserving in every way its identity as heretofore. Its Trustees would be elected by the stockholders and exercise the same power in the management of the affairs of the college corporation as at present.

The question of this connection was brought before the Board of Trustees at its last meeting and the undersigned appointed a committee to bring the matter to the notice of the stockholders and obtain from them an expression as to its advisability.

Hoping that you will give the matter your early attention, we are,

Respectfully,

TO DR. GEO. WATT,
Xenia, Ohio.

H. A. SMITH,
JAS. I. TAYLOR.

THE MISSOURI STATE DENTAL ASSOCIATION

WILL hold its twenty-third annual meeting at Kansas City, Mo., commencing June 21st, 1887, and continue in session four days. All are most cordially invited to be present and take part in the proceedings. Arrangements will be made for special railway and hotel rates. The dental depots and manufacturing companies will be present with a full line of goods. Dentists are invited to bring specimens, models, new appliances, instruments, etc.

D. J. McMILLEN,
J. W. AIKEN,
C. L. HUNGERFORD,

Ex. Committee.

INDIANA STATE DENTAL ASSOCIATION.

THE twenty-ninth annual meeting will be held at Lake Maxinkuckee, commencing Tuesday June 28, 1887, and continuing three days. The profession are cordially invited to attend. The State Board of Dental Examiners will also meet at the same time and place.

TERRE HAUTE, IND.

R. W. VAN VALZAH, *Sec'y.*

WISCONSIN STATE DENTAL SOCIETY.

THE Wisconsin State Dental Society will hold its seventeenth annual meeting at Milwaukee, Wis., beginning Tuesday, July 19, 1887, continuing for three days.

The State Board of Dental Examiners will meet daily during the sessions to examine and register applicants.

Dental and medical practitioners are cordially invited to attend.

W. S. SULLIVAN, D.D.S., *Sec'y.*

NO. 23 E. MAIN ST., MADISON, WIS.

CHICAGO DENTAL SOCIETY.

At the annual meeting held Tuesday evening, April 5th, the following officers were elected for the ensuing year :

President, Dr. J. G. Reid; *First Vice-President*, Dr. J. A. Swasey; *Second Vice-President*, Dr. G. H. Bentley; *Recording Secretary*, Dr. C. N. Johnson; *Corresponding Secretary*, Dr. W. B. Ames; *Treasurer*, Dr. E. D. Swain; *Librarian*, Dr. A. W. Harlan; *Board of Directors*, Drs. G. H. Cushing, E. Noyes and J. A. Swasey; *Board of Censors*, Drs. B. L. Rhein, J. W. Wassall and L. L. Davis.

W. B. AMES, *Cor. Sec'y.*

CHICAGO COLLEGE OF DENTAL SURGERY.

THE fifth annual commencement was held at the Grand Opera House, Chicago, Monday, March 28, 1887, at 2:30 P. M.

There were 37 graduates, as follows: Dewitt Clinton Bacon, Illinois; Henry Cliff Ballard, Minnesota; Charles Edwin Bentley, Wisconsin; Thomas Albert Broadbent, B. S., Illinois; Charles Dibble Calkins, M. D., Illinois; Charles Wilkins Coltrin, Illinois; Walter Scott Conn, Illinois; William Henry Damon, Illinois; Ernest Edward Davis, Michigan; Charles Perry Deming, Wisconsin; Frank Armstrong Dodge, New York; Joseph Henry Goodearle, Wisconsin; Edmund Jerome Hart, Wisconsin; George William Haskins, Illinois; Luther David Henderson, Wisconsin; James Eucherus Keefe, Illinois; John Liggett, Illinois; Elgion Mawhinney, Dakota Territory; William Evans Morris, Illinois; Arthur Nelson, Missouri; M. Eugene Norton, Illinois; Henry O'Brien, Illinois; James Richard Pugin, Indiana; Harry Norris Pitt, Illinois; John Henry Reed, Wisconsin; Charles Christian Rosenkranz, Illinois; Otto Eberhardt Seeglitiz, Illinois; Frank Garner Stover, Illinois; Chester James Underwood, Illinois; Harry Elmer Wade, Illinois; Henry Palmer Wadsworth, Illinois;

Julius Albert Waschkuhn, Illinois; Frank Charles Wermuth, Wisconsin; George Nelson West, Illinois; Harry H. Wilson, Illinois; William Witt, Illinois; Frank H. Zinn, Wisconsin.

NEW YORK COLLEGE OF DENTISTRY,

HELD its twenty-first anniversary, in Chickering Hall, Wednesday, March 9, 1887. The address to the graduates was made by W. A. Purrington, Esq. The number of matriculates was 193; graduates 51, as follows: James Charles Alker, George Sumner Burt, Gregorio Santos Benet y Llata, M. D., Samuel Skinner Brown, Valentine Edw. Norman Cook, Thomas Alfred Clawson, John Harvey Crane, John Richard Crawford, John Clayton Downs, Frank Perry Denny, George Anthony Dow, Frank John Eversfield, William Eybel, Samuel Hassell, Jr.; Erastus Otis Houghton, Spencer Cone Hamilton, Paul William Hiller, Halstead Pell Hodson, Ira Daniel Horton, Samuel Porter Hopkins, Leo Frederic Hugle, Frank Alfred Katzmeier, Samuel James Kennedy, Louis Charles Leroy, Frank Butler Longenecker, Edwin Parker Marshall, Francis Joseph McLaren, Ferdinand Moith, Henry Middleton, Lorenzo Noa, George Edward Nearing, Arthur German Rouse, Franklin Willard Rogers, Dudley John Russell, Horace Reynolds, Felix Edmond San Fuentes, Ph. B., Thomas Howard Stevens, Charles Harvey Smith, Harold Slade, Preston McCready Sharp, Richard James Secor, Walter Lincoln Scofield, Joseph Daniel Sayre, George Joseph Taylor, Daniel Webster Valentine, Walter Woolsey, Herman Eugen Albert Wichert, George Mortimer Whitfield, John Van Pelt Wicks, Ulysses Grant Woolley, Leonhardt Eichbery Zuchtman.

DENTAL DEPARTMENT OF THE UNIVERSITY OF IOWA.

THE fifth commencement was held in the Opera House, Iowa City, Monday, February 28, 1887. The annual address on behalf of the faculty was by State Senator W. W. Dodge, and the valedictory by Miss Jessie Ritchey, of the class.

Twenty-four graduates received the degree of Doctor of Den-

tal Surgery :—C. W. Aydelotte, Newtown, Ind.; H. N. Edwards, Des Moines; L. S. Field, Calmar; E. T. Giddings, Logan; E. S. Glasier, Brush Creek; T. J. Glenn, Plymouth, Wis.; C. H. Hare, Knoxville; F. A. Hefner, Delaware; J. H. Johnson, Waukon; J. J. Little, Burlington; W. A. Maxwell, Villisca; R. McNutt, Muscatine; J. A. Neil, Bismark; Jessie Ritchey, Onawa; F. M. Shriver, Glenwood; H. W. Shriver, Red Oak; J. W. Soule, Ottumwa; Joseph Stott, Burlington; W. R. Tipton, Brooklyn; H. M. Vawter, Knoxville; J. B. Vernon, Marengo; D. P. Wetzel, Grundy Center; Alfred Wood, A. M., Iowa City; Geo. B. Yergey, Villisca.

CENTRAL DENTAL ASSOCIATION OF NORTHERN NEW JERSEY.

At the annual meeting held Monday, Feb. 21, 1887, the following officers were elected for 1887-88:

President, S. C. G. Watkins, Montclair; *Vice President*, Geo. E. Adams, South Orange; *Secretary*, James G. Palmer, New Brunswick; *Treasurer*, Chas. A. Meeker, Newark; *Executive Committee*, B. F. Luckey, Paterson; Wm. P. Richards, Orange; C. F. W. Holbrook, Newark; Oscar Adelberg, Elizabeth; Jacob Simonson, Newark.

JAMES G. PALMER, *Sec'y*, New Brunswick, N. J.

UNIVERSITY OF MARYLAND DENTAL DEPARTMENT.

THE annual commencement was held in the Academy of Music, Baltimore, March 16, 1887. There were one hundred and twenty-four matriculates and fifty-one graduates. The latter were:

Julius Albrecht, Germany; Joseph Maben Baker, Arkansas; Alonzo Amasa Bemis, Massachusetts; Daniel B. Blauvelt, New York; Garabed Boyajian, Asiatic Turkey; Charles J. Brawner, Georgia; Henry E. Chase, Massachusetts; John G. Chisholm, Alabama; Fred. Julian Crowell, New Hampshire; Henry E. Douglass, New York; John Tripner Eiker, District of Columbia; George McClenahan Faulkner, Pennsylvania; W. Crawford Young Ferguson, Canada; Christian G. Frantz, Pennsylvania; Joel Nolten Furman, New York; Heinrich Garbrecht, Germany;

William F. Gray, Virginia; L. Lee Harban, Maryland; Edwin L. Harris, Massachusetts; Anton Joseph Hecker, Germany; Samuel W. Hoopes, Maryland; Hamilton V. Horton, North Carolina; Michael Hourihane, Virginia; Max Jaenicke, Germany; Paul Jaenicke, Germany; James Leitch Kean, Virginia; Charles T. Loving, Texas; William M. Meador, M.D.; South Carolina; Samuel McColl, Canada; James H. A. Miller, West Virginia; Wellington C. Miller, Pennsylvania; Woodson N. Murphy, Texas; John H. Neill, New York; Alberto Lopez de Oliveira, Brazil; Harry Homer Phillips, Pennsylvania; Preston A. Rambo, Georgia; Samuel S. Reamer, Virginia; Walter Franklin Richards, Illinois; Wilfred A. Robertson, Canada; Cary Clifton Sapp, North Carolina; Edward H. Shields, Ohio; Henry Rutgers Shine, Florida; Richard Alexander Shine, Jr., Florida; E. Everett P. Sleppy, Pennsylvania; Parke P. Starke, Virginia; Robert W. Talbott, District of Columbia; Mathew W. White, South Carolina; Arnold Wietfeldt, Germany; Heinrich Theodor Wilhelm, Germany; John H. Wilson, New York; William W. Wogan, Pennsylvania.

CENTRAL TENNESSEE COLLEGE, DENTAL DEPARTMENT.

THE commencement of this school was held in the Masonic Theater, Nashville, February 21, 1887, in connection with that of the Meharry Medical College, of which it is a part. There were nine matriculates and three graduated. This was the first session of the first school for educating the colored race in dentistry.

The names of those receiving degrees were:—John Wesley Anderson, Kansas; Henry Thomas Noel, Tennessee; and Robert F. Boyd, Tennessee.

MISSOURI DENTAL COLLEGE ALUMNI ASSOCIATION.

At a meeting of the St. Louis graduates of the Missouri Dental College, held on March 2, 1887, an Alumni Association was formed and the following officers elected: G. A. Bowman, President; Henry Fisher, Vice President; J. W. Whipple, Secretary;

A. H. Fuller, Treasurer. Executive Committee.—Drs. Eames, Fisher and Harper. Graduates are requested to send their address to

JAMES W. WHIPPLE, D.D.S.

McADARAS FLATS, 29TH & LUCAS AVE., ST. LOUIS, MO.

THE DENTAL LAW OF INDIANA AS AMENDED IN 1887.

SECTION 1. Be it enacted by the General Assembly of the State of Indiana, that it shall be unlawful for anyone to practice dentistry in the State of Indiana at any time after thirty days from the appointment of the Board of Examiners, provided for in section two hereof without being registered according to the provisions of this act.

SEC. 2. A Board of Examiners, consisting of five reputable practicing dentists, shall be appointed on the last Tuesday of June, 1887, and biennially thereafter, one by the Governor, one by the State Board of Health, and three by the Indiana State Dental Association, said Board to serve for the term of two years from the date of such appointment; and it shall be the duty of said Board to meet annually, at the time and place fixed for the meeting of said Dental Association, or oftener at the call of any three members of said Board, at such time and place as may be designated in such call. When convened the said Board shall examine all applications, issue registration certificates thereon, and also examine all applicants for certificates of qualification, and issue such certificates to all such applicants who shall pass a satisfactory examination.

SEC. 3. Any person who shall prove to the satisfaction of said Board of Examiners that he is a graduate of a Dental College duly and legally incorporated, and who shall present a diploma therefrom, and shall further show that said College is of good repute, shall be entitled to a registration certificate on the payment of a fee of one dollar to said Board.

SEC. 4. Any person who shall present to said Board of Examiners a valid certificate of qualification, issued by the Board of Examiners under the provisions of any former law of this State, shall be entitled to a certificate of registration upon the payment of a fee of one dollar to said Board.

SEC. 5. Any person who shall file before said Board of Examiners an application under oath, and sworn to before one or more freeholders, setting forth the fact that said applicant has been engaged in the lawful practice of dentistry in this State continuously since the 29th day of May, 1879, shall be entitled to a registration certificate on the payment of a fee of one dollar to said Board.

SEC. 6. Any person who shall desire to obtain a certificate of qualification to practice dentistry in this State, and who shall not be entitled to a registration certificate under any of the provisions of the preceding sections of the act, shall be by said Board examined in anatomy, physiology, pathology, therapeutics, chemistry, and the theory and practice of surgical and mechanical dentistry, upon the payment of a fee of five dollars to said Board, and should such examination of said applicant prove satisfactory to said Board, it shall issue to said applicant a certificate of qualification and registration.

SEC. 7. Any member of the Board of Examiners may grant a permit to practice dentistry to any person who shall file with said member his application therefor, but such permit shall only be valid until the next meeting of said Board.

SEC. 8. All certificates (except permits) issued under this act shall be signed by at least three members of the Board of Examiners, and said certificates shall have the seal of the "Indiana State Dental Association" affixed thereto. A majority of said Board shall constitute a quorum to transact business.

SEC. 9. All persons receiving certificates of registration from said Board of Examiners, or permits from any member thereof, before beginning to practice dentistry, shall present said certificate of registration, or permit, to the Recorder of the county wherein said applicant desires to practice, and the said Recorder shall record said certificate, or permit, in the miscellaneous record of his office, and said Recorder shall indorse the recording of the same on the applicant's certificate, or permit, and for his services he shall collect from each applicant the sum of twenty-five cents.

SEC. 10. Any person who shall violate any of the provisions of this act shall, upon conviction thereof, be fined not less than twenty nor more than one hundred dollars for each offense: PROVIDED, That nothing in this act shall be construed to prevent any lawfully registered surgeon or physician from extracting teeth, or performing any surgical operation in the line of his professional duties.

SEC. 11. The Board shall receive out of the fund created by this act such compensation for their services as the by-laws of said State Dental Association may provide.

SEC. 12. An act entitled "An act to regulate the practice of dentistry" approved March 29, 1879, and printed in the Revised Statutes of 1881 as chapter 47, and being sections 4249 to 4257 inclusive, be and the same is hereby repealed, together with all laws in conflict with this act: Provided, however, That all violations of the laws hereby repealed may be prosecuted under the provisions of the laws in force at the time when such offense was committed.

NEBRASKA DENTAL LAW.

Be it enacted by the Legislature of the State of Nebraska:

SECTION 1. It shall be unlawful for any person or persons to practice dentistry or dental surgery in the State of Nebraska without first having received a diploma from a reputable dental college or university duly incorporated or established under the laws of some one of the United States or some foreign government, provided, that nothing in section one of this article shall apply to any bona fide practitioner of dentistry or dental surgery in this State at the time of the passage of this act; and provided, that nothing in this act shall be so construed as to prevent physicians or surgeons from extracting teeth.

SEC. 2. Every person who shall hereafter engage in the practice of dentistry or dental surgery in this State, shall file a copy of his or her diploma with the county clerk of the county in which he or she resides, which copy shall be sworn to by the party filing the same, and the clerk shall give certi-

cate of such fact, with the seal of the county attached thereto, to such party filing the copy of his or her diploma, and shall file and register the name of the person, the date of the filing and the nature of the instrument in a book to be kept by him for that purpose, and as a compensation for his services the said clerk for filing and registering the same shall receive a fee of one dollar, to be paid by the person filing the diploma.

SEC. 3. Every bona fide practitioner of dentistry or dental surgery residing in this State at the time of the passage of this act, and desiring to continue the same, shall within ninety days after the passage of this act file an affidavit of said facts as to the length of time he or she has practiced in this State with the county clerk of the county in which he or she resides, and the said clerk shall register the name of and give a certificate to the party filing the affidavit in like manner and of like effect as hereinbefore provided, and for such service shall receive a fee of one dollar, to be paid by the party filing the affidavit.

SEC. 4. All certificates issued under the provisions of this act shall be prima facie evidence of the right of the holder to practice under this act.

SEC. 5. Every person violating the provisions of this act shall upon conviction thereof be deemed guilty of a misdemeanor and be punished by a fine of not less than \$50 nor more than \$200 for each and every offense, or be imprisoned in the county jail for sixty days, or both fine and imprisonment, at the discretion of the court, and all fines collected shall belong to and be paid into the common school funds of the county where the offense was committed.

SEC. 6. Any person who shall have filed his or her affidavit or diploma, as required in sections two and three of this act, in one county and remove to another county, shall, before entering upon the practice of his or her profession in such last named county, procure a certified copy of the record of his or her former registry, and cause such transcript to be filed and recorded in the dental register of such county in which he or she has removed.

Our Aftermath.

Life says a falsetto voice does not necessarily imply a falsetto teeth.

UNCLE ESEK'S WISDOM.—“We stand in our own sunshine oftener than others do.”—*The Century*.

THE *British Journal of Dental Science* thinks if dentistry is not a specialty in medicine, that it ought to be.

THE RUSSIAN women have not as good teeth as the men, the reason of which is their inordinate fondness for sweets.—LEE MERIWETHER, *A Tramp Trip Through Europe*.

THE *Dental Cosmos*, for May, prints under the title “A Brief Discourse on Nutrition,” Professor C. M. Wright’s “Ten Minutes Sermon on Nutrition,” that appeared in the April numbers of this JOURNAL and of the *Dental Register*.

THE TEETH OF THE APACHE INDIANS, says Dr. Corbusier, are often decayed but not affected with tartar. These Indians do not maintain their stolidity under minor surgical operations, the extraction of a tooth almost always eliciting a groan or a yell.—*N. Y. Med. Journal*.

EARLY DENTITION.—The Spanish journal, *La Correspondencia*, announces by royal decree that Rafael Alcalde y Barlitt has been appointed dentist to His Majesty, Alphonso XIII, aged three months. *Query*: Was his youthful Highness born with teeth?—*T. C. M., in Cin. Lancet-Clinic*.

COMMENCEMENT-ORATORS.—This is the season when the history of medicine is reviewed from the earliest time to the present day by eloquent commencement-orators. It is a period when thousands are refreshed with the story that medicine is the noblest and grandest of professions, and when the young medical graduate is surprised by being told that he is just on the threshold of a new career in which he is destined to hush the groans of millions with the joy of health.—*Medical Record*.

THE FATHER OF HIS COUNTRY suffered from bad teeth as may be inferred from the following letter to a firm of commission merchants in London: "Dear Cary," he wrote to the senior member of the firm, "Mrs. Washington joins me in warm thanks to you for your considerate present of two large stone jars of pickled tripe. I must ask you to arrange for four similar jars, in wicker-basket casing, packed in outer casks, to be shipped for my account direct from the owners. Dental infirmity impels my caring for this necessary item in our domestic commissariat."—*Youth's Companion*.

AMERICAN DENTISTS IN GERMANY.—The Department of State has been informed by the U. S. Consul General at Berlin of the issuance of an order by the police authorities of that and other German cities, reciting the decisions of the Royal Privy Court establishing the principle that dentists who have received diplomas in foreign countries can only assume their title in Germany upon having secured certificates of qualification from the Board of Examiners of the German Empire, and requiring all persons to abstain, under penalty of the law, from the use of the designation "American Dentist" in connection with the title of doctor.

DEATH FROM CHLOROFORM.—In the operating room of Professor Albert at Vienna. The patient was a young woman 23 years of age, apparently in perfect health, and was being operated upon for the removal of a lymphoma the size of a hen's egg situated at the outer angle of the inferior maxillary bone. Not more than two or three drachms of chloroform had been given when the patient ceased to breathe, and no amount of artificial respiration would resuscitate her. A careful post-mortem failed to give any explanation of the cause of death, as the heart was normal and no air had gained access to the circulation.—*Foreign Correspondence, Chicago Med. Journ. and Examiner*.

EFFECTS OF STUDY ON THE TEETH.—Among the hard-worked pupils of the Paris public schools the teeth become deteriorated in a few weeks after entry. The second dentition is often premature. These observations confirm the statements of Dr. J. L. Williams, who has given great attention to this subject. He has shown that any mental strain shows itself upon the teeth in a short time, both in increased decay as well as in increased sensibility of dentine. Dr. D. M. Parker has reported that these same changes are always apparent in men who are training for athletic trials.—*Boston Medical Journal*.

“CERTAIN OF NOTHING.”—The great teacher of evolution in Germany, Virchow, pursued the subject till he found it had no positive proof, and then candidly pronounced it “an unverified hypothesis.” Haeckel, now the champion of that dogma, and himself formerly a pupil of Virchow, rose up against his teacher, and in the excess of his mortification at the defection of his master, he declared that the same is true of all science—that we are certain of nothing—that all knowledge is good enough till something more conclusive and satisfying is *supposed* to be true, and then we accept the new and reject the old. What a field of inquiry does this bold assertion of Haeckel open to the young student’s mind!—*N. Y. Observer*.

A DISPELLED DELUSION.—The shining metallic incrustation found upon the teeth of some of the cattle which are pastured along the banks of the Carson river has been popularly pronounced to be a coating of gold and silver deposited upon the teeth from the mineral impregnation of the water and grass, attracted through the magnetic action of the animal’s body. Some of this bullion incrustation or deposit was submitted recently to Professor F. E. Fielding, chief assayer at the Consolidated California and Virginia assay office, in this city. Upon critical analysis of the material he pronounces it to be pure calcium of sulphide, with not the least trace of either gold, silver or quick-silver. Thus another hopeful delusion is dispelled, and the contemplated source of revenue from scraping the animals’ teeth periodically rendered useless and worthless.—*Virginia City Enterprise*.

DR. J. ROLLO KNAPP, of New Orleans, is evidently appreciated by his professional brethren. In the *Times-Democrat* we find an account of the presentation, March 11, 1887, of a gold medal described as follows:

“The medal is a beautiful piece of work about the size of a \$20 gold piece, with a raised rim. On the obverse there are artistic representations of a gold-crowned tooth, of a blow-pipe (studded with minute diamonds), of an electric mouth-lamp, and of a crown-and-bridge denture of a complete upper set of teeth. On the reverse, within an hexagonal space bearing a fine solitaire diamond at each angle, is engraved the legend: “From the Dentists of Louisiana to J. Rollo Knapp, M.A., D.D.S. His valuable inventions and discoveries, and his beautiful and artistic work in dentistry have advanced our profession and are an honor to us all. New Orleans, March, 1887.”

A SOLVENT FOR SORDES IN ATAXIC FEVERS.—The mouth is hot; the lips dry, cracked, and glued to the sordes-covered teeth by inspissated mucus and saliva; the tongue dry, or even glazed and hard, brown or black, and crusted with a fetid fur. Under these circumstances, a pigment containing boric acid (thirty grains), chlorate of potassium (twenty grains), lemon juice (five fluid drachms), and glycerine (three fluid drachms), yields very comforting results. When the teeth are well rubbed with this, the sordes quickly and easily become detached; little harm will follow from the acid present. The boric acid attacks the masses of bacilli and bacteria, the chlorate of potassium cools and soothes the mucous membrane, the glycerine and lemon juice moisten the parts and aid the salivary secretion.—DR. A. D. MACGREGOR, *Brit. Med. Journal*.

THE SPECIALIST.—The progress of the age, the march of science, the division of labor and study, the introduction of special courses and subjects for experiment and pursuit, the invention and discovery of new methods of reaching the end desired, new views in arts and knowledge in every department, serve to make the student more proficient in that branch to which he consecrates his energies, and to train experts and teachers. The consequence is that as each school and each scholar in that school becomes master, he looks with pity and then with contempt on the man who has not pursued his line of thought and inquiry. His high estimate of his own attainments compels a mean opinion of the knowledge and wisdom of his less learned neighbor. Conceit begets contempt. The time was when the more a man learned, the less he thought he knew. As the vast ocean of truth became more and more revealed to his view, the less in his esteem seemed the few grains of sand that he and Sir Isaac Newton had picked up on the shore.—N. Y. *Observer*.

A COLLEGE EDUCATION.—There are many men to whom circumstances have made a college or even a normal training impossible, and who feel discouraged in view of the preference usually given to graduates. But they must remember that a diploma is only an indication of what a man is. It is more readily recognized than most indications, because it is definite and well-known and usually of weight. But college doesn't make a man: it simply develops what was already in him; and though it does it more effectively for the average man than any other agency thus far discovered, so that a college-course is usually an economical exertion of effort, yet a man may educate himself outside of college, or he may have born in him what few college boys can attain. So while the non-graduate has to demonstrate by successful work some things that are taken for granted in one who can show a diploma, it is to be remembered that this demonstration may be made effective. The non-graduate works at a disadvantage, but nevertheless his work tells; and in the long run work is the only thing that does tell. So there is no reason why a man should mould in an out-of-the-way place because he never graduated. *School Bulletin*.—The advantage is with the college-trained man, as a rule; but those who are denied the opportunity of college training still have a chance in the race. They should endeavor to make up, by industrious and persevering application along the way, for the want of early opportunities; and this may be done in a great measure.—*Ohio Educational Monthly*.

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

JULY, 1887.

No. 7.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

A CASE IN PRACTICE.

REPORTED BY GEORGE W. KEELY, D.D.S., OXFORD, OHIO.

THE case is that of a boy, aged fifteen when he came to me in 1879. His parents were from England, both having normal dental arches.

At about eight years of age he was overdosed with calomel, resulting in the destruction of the germs of the left inferior bicuspid, as also of the inferior right second bicuspid. The inferior first molars were extracted when he was about twelve—and prior to this he lost his superior second bicuspid. The superior incisors are locked inside the inferior ones, half the length of the crowns, giving the boy an aged appearance, and interfering with correct enunciation, and mastication so far as the anterior teeth are concerned. The inferior second molars were in good condition, occluding on the superior first and second ones.

The loss of the superior bicuspid was doubtless the most pronounced cause of the existing deformity. Fig. 1 shows the occlusion of the teeth before the operation.

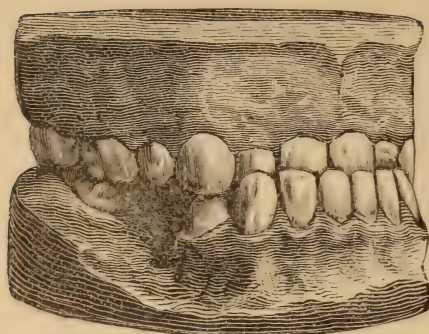


FIG. 1.

The locked insisors stand squarely together—none of them being on a twist. So I concluded to treat the case similar to one by Dr. N. W. Kingsley first published in the *Dental Cosmos*, January, 1872, and reproduced in his treatise on *Oral Deformities*, page 127. "The patient was a young lady fourteen years of age. The occluding of the jaws showed that the entire row of lower teeth shut outside the upper ones. Wedges were inserted between *all* the (superior) teeth and worn from the first. These wedges were of elastic rubber, and used of such thickness only as would exert a gentle pressure. The retaining plate answered a two-fold purpose: it kept the teeth from the possible contingency of any one of them moving towards the centre of the mouth; and secondly—which was of equal importance—points of the retaining plate were allowed to pass between all the teeth, which kept each wedge from slipping up into and irritating the gum. The patient was watched daily so long as the wedges were acting. When by reason of their want of thickness they ceased to act, new ones, but slightly thicker, were substituted. There was no more discomfort to the patient undergoing this process than is commonly experienced in the wedging of one or two teeth in the mouth for the purpose of getting space for filling. There was no soreness which called out complaint from the patient. There was no favoring diet, nor was there any provision made for masticating while the teeth were in transit."

He further says, "The foregoing account is not designed to prove what is sometimes possible, or what trials nature may undergo and still survive; but it is set forth as an illustration of a principle in the treatment of irregularities which has never

before been published. In the above there is nothing but a recognition of purely mechanical principles in dental practice. The wedge is a mechanical power. Its application here is identical with its use by the architect as a keystone in building his arch. Its action and results are the same as if the hoops of a barrel were loosened and a wedge driven between each stave. The circumference of the barrel would enlarge so long as the staves were prevented from twisting, in which case the whole thing would collapse into a wreck."

"Within twenty days from the time the power was first applied to the teeth, the entire upper row was articulating outside of the lower ones."

No apology is offered for reproducing the above—for I consider it one of the most interesting cases on record—good reading, that can be re-read many times with profit.

The case here illustrated in Fig. 1 was given over to my son, Charles I. Keely, D.D.S., for his first effort. A rubber band was drawn tight and passed between the incisors—then cut off on each side. This was repeated as required, each time using thicker rubber, and at the close of the fourteenth day the six superior teeth were articulating as shown in figure 2.

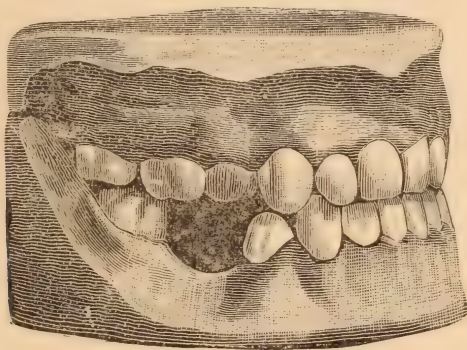


FIG. 2.

Some sharp cusps were ground off from the molars, so on occlusion the inferior molars were driven forward.

Now, after the lapse of seven years, the first inferior right bicuspid has elongated and strikes the cuspid. The inferior second molars came forward and occlude on the first superior ones. The inferior third molars are erupted, antagonizing the superior second ones.

The anterior teeth strike on their cutting edges in a manner to be the most useful for masticating purposes. In this case no retaining plate was used during the transit of the teeth to their new position—for the reason that they stood squarely together, and during the period of expanding they showed no disposition to twist in their sockets. Should any of the incisors become twisted, a retaining plate, with proper bearing on the twisted tooth, can be arranged to turn the tooth while being carried to place. In all such cases a properly arranged retaining plate is absolutely necessary, to be worn until the teeth become firm in their new positions.

The young man's enunciation and personal appearance is greatly improved.

LABORATORY INQUIRIES ANSWERED.

BY L. P. HASKELL, D.D.S., CHICAGO.

How would you proceed to swage a plate?

First cut a pattern from lead, (the Japanese tea lead is the best). Cut the plate always crosswise of the grain, or the grain *across* the mouth, as it is less liable to tear. Anneal to a red heat, and drop into sulphuric acid, thus cleaning the surface, so any base metal may readily be seen. Oil the dies, as it lessens the possibility of the metal adhering. With the mallet, work the plate down into the arch, (if this is very deep, make a half counter, just into the arch). When well down into place, with the lower bending pliers, bend over the ridge, as well as possible, and having cut the plate in front to the top of the ridge, swage gradually, looking to see that the edges do not lap or crinkle. If the plate is soft, as it should always be, not more than three annealings are necessary. After it is swaged fully into shape, solder the lap in front, and trim the margins, always bearing in mind the absolute necessity of the plate being worn as high as it can be all around, and especially over the canines, in order to restore the contour of the lip, and how high, can only be determined by trying in the mouth, and trimming accordingly. For this reason the practice of some of *swaging a rim*, is unadvisable, as will readily be seen if the dentist wishes to restore the lip contour.

What is the easiest method of swaging a partial lower?

These most difficult cases, are the most easily handled by swaging in *two pieces*, especially as they need doubling back of the anterior teeth. Cut each pattern to extend past the last tooth, whether it be cuspid or bicuspid, and extending up over the necks of the teeth, one-eighth inch or more, according to their length. Form the plate, after annealing, as well as may be, with the bending pliers. Swage gradually; sometimes the process is aided by working the plate, with a burnisher, into the counter to some extent. The difficulty, of course, is enhanced from the fact that there are *two curves*, in opposite directions, oftentimes, to overcome. Anneal oftener than in an upper, or full lower.

After swaging each *separately*, swage the two together; place borax between, clamp together with small wire clamp, and laying the solder on overlapping edges, flow thoroughly between; trim and swage again. Second dies are needed in these cases.

If it is an undercut case, the die has been made with a core. Of course the counter, in these cases, must not follow entirely the die, as they could not be separated often without breaking; so before casting the counter *pack a little sand into the undercut*; then your plate will swage as far as it would be possible to swage and, having a correct die, burnish the balance into place. It will be found that this plate will fit the plaster cast perfectly, and equally well the mouth, if there was a correct impression.

Too much stress cannot be laid upon the use of soft gold, or gold plate made from pure gold, and pure alloys, avoiding in remelting scraps, the least show of platina; 20 karat is none too fine; gauge 28 for upper and 26 for lower. In partial upper 28 doubled if necessary one-fourth inch, is stronger than a 26 plate. Never double the plate entirely, as it is better to leave the edge thin.

A CASE IN PRACTICE.

BY E. H. RAFFENSPERGER, D.D.S., MARION, OHIO.

SEVERAL months ago a gentleman called at my office to have a tooth filled. I noticed his face, especially around the nose, and between the nose and left ear, was covered with an eruption, and upon inquiry, he told me that it was eczema, and that he had been under treatment for some time with several physicians, but

as yet the trouble had not diminished in the least. After I had filled the tooth, (which I believe was the right superior second bicuspid,) he called my attention to a "gum boil" over the superior right first molar, which he said had been discharging for some time. I found quite a large swelling about the size and shape of an almond, extending from the first bicuspid to the third molar and a sinus over the first molar, from which was discharged, on the introduction of a probe, about an ounce of creamy pus. The first molar had been filled, years before, with amalgam, which was still in place, the nerve pulp had been devitalized and the root filled with gutta percha, but had never given any trouble. I advised extraction, but the gentleman was loth to sacrifice the tooth; so at his request I began to "treat" the abscess, but after a few days the patient failed to come again, but still continued to be treated for the eczema, which had become so bad that he went to a neighboring city and placed himself under the care of an eminent physician, but got no relief, came home disgusted and discouraged with a face and nose which would have made him a "freak" in any dime museum. He called again to see me, and after some persuasion, (consisting chiefly of a good drink of whiskey,) he had the tooth extracted, this was followed by a large discharge of pus, the palatine root was nearly absorbed, and in the apex of one of the buccal roots was a mass of gutta percha which had been forced through the apical foramen. It is hardly necessary to state that the "*eczema*" on the face and nose immediately disappeared without further treatment and there has been no return of it. So we see how a trivial matter of this kind may baffle the skill of the physician, and the mere fact of its being trivial is just what misleads him, and I have no doubt but that many of the so-called disorders can be traced directly to the teeth, and that the forceps and drill will prove more potent in such cases, than the whole *materia medica*.

ILLINOIS STATE DENTAL SOCIETY.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S.]

(Continued from page 272.)

DENTAL ART AND INVENTION

was reported upon by DR. SWASEY. He spoke of the Knapp blow-pipe, vulcanite gold-linings, improvements in anchorage

screws, the Shaw dental engine, the medicating syringe of J. Austin Dunn, J. H. Woolley's root-canal dryer, Dr. Melotte's soldering pliers for bands and crown work, Dr. Melotte's mol-dine and fusible metal, a new regulating appliance by Dr. McKellops, a paper disk protector and director by Dr. Matteson, a clamp for holding back the rubber from the teeth by O. Carpenter, Dr. Bradley's adjustable matrix, Dr. Solomon's incandescent mouth lamp, which does not heat and has three times the power of any other lamp, and Dr. Swasey's clamp for holding back the rubber dam.

RETENTION OF PULPLESS TEETH IN THE JAWS.

A paper by DR. HOMER JUDD was a review of the articles that appeared sometime since in the *Medical Record*. The discussion, which followed the reading of the paper, seemed to pay more attention to the medical profession than to the subject:

DR. H. H. TOWNSEND: Pulpless teeth are by no means dead teeth. Unnecessary extraction of the teeth bears the same relation as the taking of a limb from the body. To discontinue the use of plates because they sometimes cause irritation is as nonsensical as discarding underwear because the coloring matter in some of the cheap materials happens to be poisonous to some people. Another suggestion is that ear-ache need not necessarily always be attributed to bad teeth as it is many times unjustly. What would we think of a physician who would say typhoid fever was due to tooth-ache because that patient happened to have some decayed teeth in the mouth.

DR. J. S. MARSHALL: When these articles were discussed I took occasion to answer some of them, but as Dr. Judd has so thoroughly covered the ground I feel that I cannot add more to it. There is one thing in the paper, however, that I was sorry to see as it threw ridicule on the whole medical profession. The fools are not all in the medical profession. To illustrate this, there was a dentist not far from here, on the shores of Lake Michigan, who had a case of abscessed tooth. He did not at first know what to do but finally told the patient that she would have to have the tympanum of the ear punctured in order to let the matter out. There was another point in the paper regarding the deposit of secondary dentine. I have never seen a tooth where the pulp chamber was completely filled with this deposit.

DR. OTTOFY: I think Dr. Judd is fully justified in making the point he did. Dr. Marshall takes exception because he is himself an M. D. Another point of importance is the diseased condition of the tissues under plates. Dr. Judd seems to think that the rubber and other materials have deleterious effects. The patients should brush the gums as well as the teeth, for the inflamed and sore mouths under plates always comes from a neglect of cleanliness.

DR. SARGENT: I approve of every word that has been said. I believe there is not a profession on earth more ignorant of what they profess than that of the medical.

DR. KOCH: I believe as a general thing ridicule is not good teaching, but in this case it is all right. We are not accusers. I do not think all in the medical profession are ignorant, but they are not capable of teaching the dentist about his profession any more than we are able to discuss theirs; and if they assail us let us give back even stronger than we have received.

DR. FREEMAN: I think the paper a very good one. We feel the need of interchange of medical and dental thoughts. That mistakes occur in both professions we are all well aware. Science is made up of our experiences, which aggregated make the science complete. It has been cited that pain in the ear and eye was the result of sympathetic action. What is the proof that ear-ache and other diseases are the result of carious teeth? He here cited a case where the extraction of a tooth in the lower jaw relieved the pain. In another case the patient could not raise his arm, but after the extraction of a lower molar the trouble ceased. He further said that the best physicians and surgeons are looking for light in this direction and they do not discard dentists, and we should be prepared to give advice if called upon to do so.

DR. BLACK explained to those physicians present what the report was on, and stated that no slur was intended upon the physicians in general. He further said, take the posterior teeth and we often have reflex trouble, especially ear trouble from hyperaemia of the tooth pulp.

DR. SITHERWOOD: There are some principles in the dental as in the medical profession that must hold good. First, in teaching or writing if we hold ourselves open we will surely receive ridicule, and on the other hand because an M. D. makes a mistake it holds him open to ridicule and he receives it, but this should

not necessarily extend over the whole profession because one of its members has erred. I regret that anything should be said in our dental meetings against the M. D.'s. They are our best friends and we ought to operate conjointly, and I do not think that any member has intended to throw ridicule on the whole profession.

DR. NOYES: Enough has been said in relation to M. D.'s, and I think more should now be said about the subject proper. The retention of pulpless teeth in the jaws depends principally on the perfection, permanence of the integrity and health of the peridental membrane. We look upon this one aspect of the question as having been more completely developed within the last year. Some of the experiments Miller described in practice, were those of inserting sections of teeth in rabbits; where there was a peridental membrane the tooth did not become dislodged but attached. Therefore we get defects by cutting off the root and destroying the peridental membrane. If there is serious inflammation about the apex of the root, absorption will not take place but probably an abscess will be formed. Such things do not as often happen where the membrane is destroyed or affected by disease when the teeth are in the jaw normally, as the conditions are different then.

DR. STEVENS: I want to ask if the gentleman meant all that he said? I do not believe in the Younger system.

DR. KOCH here made a

REPORT ON DENTAL SCIENCE AND LITERATURE.

In many respects the record has been one of progress, especially in operative dentistry. Look at the appliances, and many methods, Younger operation, etc. The workmen are far in advance of the operator. Much has been said and written about these but are there not very few of the operations and methods founded on rational principles? Take for instance the pulpless tooth operation. F. Abbott says that the roots are always absorbed in cases of replantation, while Dr. Sudduth says the physiological process is not interfered with if the membrane is not broken. Who is mistaken? Again, Dr. Abbott after cleansing the root to be filled, puts a piece of cotton wool in the apex to prevent the filling from running through—while another declares that if a little gutta percha oozes through it does no harm.

Query,—will the cotton wool prevent the entrance of deleterious substances?

Dr. J. Smith Dodge recommends the using of carbolic acid in strong solution for a root dressing, while in the Chicago Odontological Society they say antiseptics are not good for the treatment of these cases, but that disinfectants should be used. Now one or the other of these must be wrong. We must admit that dentists are attempting that which is unscientific and they have too many hobbies. What we need is more care and less dogmatism in investigations. I do not refer however to those cases where the solutions have not yet come out or cannot be solved, as for instance the relation of dentistry and medicine. Dr. Herbst's method has occupied a great amount of attention during the past two years. Discussion was expected. There is but one opinion now, however, and that is that his visit to this country has been the means of doing much good, even though his method is not a success. Then there is the Younger operation. On this the criticism is too easy. We should let time test it, then we can all judge for ourselves.

DR. BLACK: In regard to the absorption of the roots, my attention was drawn to this in 1865, by Dr. Peebles of St. Louis, who had a case where the roots and cavity had been filled with gold, the roots were gone and part of the dentine was destroyed. In my own practice I have observed this, but it does not always occur. Absorption is a physiological process, and if the tissues are not in this certain condition we do not get absorption. Some roots have the starting point of absorption half way up to the apex and there are even cases where the apex only is left, the rest of the root having been absorbed. Where an attachment is formed in cases of implanting or replanting we get a deposit of cementum. There are specimens where the whole root of the tooth, that had been cut off, was covered with cementum. It is very likely that the dried tissue forms a leader to which the first attachment is made and then we get a deposit of cementum and the effect. We never get an attachment without the cementum deposit.

DR. KOCH cited a case of a tooth he had filled and finally extracted. The root was apparently absorbed, but he inquired whether it was a case of necrosis or absorption.

DR. BLACK: Absorption.

DR. DWIGHT: Is there any difference between the process of removal of the temporary and the permanent teeth?

DR. BLACK: I have examined such cases thoroughly and find no difference whatever.

DR. SITHERWOOD asked if where there is an abscess, the absorption is the same as in the ordinary cases?

DR. BLACK: There can be no absorption in the area of the abscess.

DR. HARLAN: It appears to me that we are losing sight of the question

THE RETENTION OF PULPLESS TEETH IN THE JAWS.

There is scarcely a man present who does not have to deal with these everyday, and it is a matter of the greatest importance that they should be properly treated so as to retain them for the longest period possible. There are many theories and modes of treatment given; some are practiced quite extensively, while others are but little used. In the report of dental science and literature the theory that carbolic acid, full strength, should be used in roots, was presented, and the gentleman quoted from the transactions of the Chicago Odontological Society, that it was not a suitable material for this kind of dressing. Let us here inquire, What is carbolic acid? It is an escharotic and an antiseptic, pure and simple. Now what need have we of an antiseptic in a root which is already in a condition to fill. It is not necessary and only obstructs the object you want to accomplish. Where the pulp is removed and there is no diseased condition of the root no disinfectant is needed, but what we want is complete dryness and the root properly filled from apex to crown. If chloride of zinc or mercury is introduced it forms an insoluble pellicle and dryness cannot be had. The gentleman also asks whether it is advisable to fill the root with cotton or gutta percha. A substance that is non-irritating and indestructible in water or one that is not acted upon by decomposition of any kind is the best. Paraffine, shellac, gutta percha, gold, or tin, are all indestructible, but I object to the use of cotton and such substances as are liable to disintegration by fluids, composed of pulp tissue or otherwise. It is not expected that all of the filled pulpless teeth can be retained. Many pulpless teeth, where the filling is defective, are retained in the mouth often by a formation of cementum covering the apex.

DR. TIBBALLS took the ground that roots could not be absorb-

ed until convinced by Dr. SPALDING who showed him a tooth whose root had been so much absorbed that the gold appeared through the apex of the root.

DR. JUDD: I wish to call attention to a single point as presented, relating to Dr. Younger. It is generally supposed that Dr. Younger was the first to experiment in implantation, but if you will look over the American transactions, you will see mention of experiments by Mitzerlicht, of Germany, fifteen years or so ago. At the time there was much excitement regarding the experiment and it was thought that dead teeth could be set in the jaw and nature would preserve them, but investigation afterward proved that the roots were absorbed until they contained little depressions into which projected bony processes, probably a deposit of cementum, and held them in place.

DR. KOCH finished his

REPORT ON DENTAL SCIENCE AND LITERATURE.

He said, in the field of journalism we note two new-comers, *The Dental Review* of Chicago, and *The Western Dental Journal* of Kansas City, Missouri. Then we also have a good addition to our literature in the *American System of Dentistry*. The field of education has received its share of attention. The colleges are better prepared to give a thorough course in dentistry than formerly. By action of the authorities in Germany, American degrees are almost worthless there. Only diplomas from two American schools, University of Michigan, and Harvard College, are recognized in England. The practice of conferring degrees by State boards is a bad one and ought to be abolished. He further spoke of the progressive and scientific investigation that had been advanced, advising dentists to investigate in some one line and carry it out as fully as possible.

MEDICINAL STIMULANTS.

DR. L. C. INGERSOLL read a paper, of which we present a brief synopsis: All animal creation must be stimulated. Plants and trees need stimulation and even the soil requires it. Nothing is in such universal demand and use as stimulants. Look at the alcohol that is consumed, at the coffee and tea, at the contents of our table castor, the condiments salt and pepper. Look at the great variety of drugs used for this purpose and there seems to

be no limit to them. Nature manifests three points of weakness that require stimulating; the mental, moral and physical. No function works uniformly up to the standard of normality. In an abnormal condition of the tissues there is a tendency to stagnation. Retarding of the blood is one of the first abnormal tendencies to inflammation. A stimulus is an instrument to spur some vital power into more complete service. In every case is presented some of the symptoms of inflammation and to overcome these and make a normal flow we must use stimulants. The common symptoms of this condition may be known to the patient as fulness, dullness, and pain due to engorgement of the channels of circulation. The pain is produced by over pressure on the nerves. Therefore we use a stimulant to increase the flow and thus relieve the pain. A sensible impression must be felt if the medicine acts as stimulant. Of the drugs the most irritating are the most stimulating. Alcohol like other stimulants, in small quantities is a stimulant, in larger quantities a sedative, and if continued becomes an anæsthetic. We get the same action in ether and chloroform. We rely also on stimulants for tonics. These differ from stimulants only by degrees, a stimulant producing sensible impressions, while the tonics do not. Any stimulating medicine can be made a tonic by dilution. There are two classes of medicine used, the irritating and the non-irritating; iodoform for instance, even with its disgusting smell, takes preference over carbolic acid, on this account, as does bichloride of mercury and other substances; but there is something more than the antiseptic treatment of disease. I look with little favor on non-irritating medicines. In some hygienic treatment it may not matter, but when it is to be used in dental practice, where the causes to be overcome in the living tissues must have an active effect as well as an antiseptic, a stimulant is required. If all diseases were primarily caused by micro-organisms, it would still be true that germicides and disinfectants are not all we need to effect a cure. Stimulants must be used to get the functions in a normal condition; this formation of the natural functions being called the second nature. It may be necessary to guard against what I have said and not think that I advise alcoholic stimulation. It is only with reference to the sick that I advise its use and not for all.

DR. NEWKIRK: In considering stimulants we should be care-

ful about definitions; for instance, the differentiation between stimulation and a food. Dr. Ingersoll says we need stimulants for the mental, moral and physical functions and also for the soil, oxen, etc., but I do not think he meant to stimulate all in the same way. The proper place for stimulation is only in a pathological condition and its place is limited. Why do we use stimulants in inflammation and at what stage? It is at the outset of the inflammation. If you wait until the resolution is gone you only aggravate by stimulating. Or beyond this point where there is suppuration or resolution you want stimulation; but there is a middle stage where it is not called for, and if given only aggravates the case. These things, I believe, are not fully comprehended by dentists or physicians. Another thing, I would narrow down the effects of alcohol as a stimulant. It is misapplied. It is only a stimulant in minute doses often repeated.

DR. BLACK: It seems we have not yet taken up the subject right. We have not yet got hold of medicines that are valuable, and particularly remedies we can use locally. The medicine must necessarily be a stimulant to act. We know very little how poisons act, yet they must be poisons. Another point. We may combat organisms and now consider the medicines that will kill these microbes. As for instance, where a man has boils he needs alkalinity. Take alkaline broth and the germs from a boil will not grow in it.

DR. CRAMER: I would like to inquire if in persons afflicted with boils the blood is acid?

DR. BLACK: No.

DR. CRAMER: Where shall we apply the stimulant? I find in some conditions of the glands, the application must be made somewhat remote from the part, and think that it might be applied with successful results in certain cases and forms of abscess.

PRACTICAL THERAPEUTICS.

DR. HARLAN read a short paper on this subject. Among other things he said: In the use of drugs and medicines it is true that in the first application many are used unintelligently, but by continued use they are looked upon with favor. If this were not true there would be little experimenting. We should first, show the results, and second, confirm them. It is less than one hundred years since we have had this great advance in the

physiological action of drugs. First, a small amount was tried on the body and then watched. Applied first to the healthy persons and passed to the sick. Not until every student in college has obtained this knowledge will physiological therapeutics cease to be empirical. Instead of having elixirs, etc., we now have open laboratory doors. What a man wants to know is why he uses a medicine.

Salol and iodol are being recommended and used as substitutes for iodoform. Where crystals of salol are applied to the living pulp they cause no pain, being non-irritating, yet will destroy all kinds of microbes and will asept wounds. The dose is from two grains to two drachms. Iodol costs about eight times as much as iodoform. It is used particularly in sluggish abscesses and in gangrene. Lanolin is applied externally for the relief of pain. Aconite is too powerful for general use. Lanolin does not become rancid and cocaine or other substances can be mixed with it. For obtunding, menthol is good, or menthol and thymol crystals equal parts. Menthol and absolute phenol, two parts menthol, one of carbolic acid and one of chloral hydrate. They are all good local anæsthetics and do not leave an eschar.

DR. SITHERWOOD: I believe in the use of medicines that are simple, yet beneficial. I have discarded the use of creosote, carbolic acid, iodol, etc. I agree with Dr. Harlan in the mixing of certain medicines with lanolin. I use eucalyptus in glycerine, ten drops eucalyptus to one ounce of glycerine. Glycerine is one of the agents in which we can dilute many medicines, for instance aconite. I always use the aconite root. I use eugenol instead of clove oil, especially for pulps of the temporary teeth. Phenol sodique I use combined with glycerine. Cocaine and glycerine is a good application for tumors just before their removal. For diseased gums take the ordinary tooth powder and add one-half as much boracic acid, and you will find it effectual. Medicines may be poor and you will not get the desired effect, so always look to the quality of the medicine before condemning it.

THE CLINICS AND APPLIANCES

did not compare favorably in numbers with the other parts of the program, but the demonstrations were very good.

DR. CALL, of Peoria, exhibited some of his own make seamless gold crowns contoured, also an instrument to stretch the necks

of crowns so that they will fit the teeth. He had some matrices of his own make made from soft brass in shape of a band and fastened with a screw. MR. T. M. LONG, of Philadelphia, demonstrated the workings of the Knapp blow-pipe. DR. WOOLLEY, of Chicago, a root canal dryer. DR. REID, of Chicago, implanted two central incisors. A fine specimen of crown and bridge-work done by DRs. SCHREIBER BROTHERS was exhibited. DR. AMES operated on pyorrhœa with electricity. DR. W. P. RICHARDS filled a left superior second bicuspid with crystal gold, and DR. I. P. WILSON contoured a cuspid with gold.

OPERATIVE DENTISTRY.

DR. NOYES: There are two or three points only that I will speak about. My attention has been directed in the past few months to the finishing of gold fillings at the cervical border. There are not as many of these gold fillings properly finished as should be. Yet it is not strange for the finishing is done at the end of the operation that has perhaps been long and tedious and both patient and operator are tired. This finishing is a question of great importance. Many times it is excessively painful when the patient is in a condition to least stand it, and for this reason alone the operation is not well done. The following points should be observed: First, have the tooth carefully shaped before inserting the filling. If strips and such materials are to be used for finishing, the border of the cavity should be smoothed off with the same material; second, have plenty of space; third, have complete exposure of the cervical border, along the cervical margin of the filling. I have found much satisfaction in the orange-wood wedge and cocaine applied to the gum greatly modifies the pain; fourth, do not use large masses of non-cohesive gold at the cervical border. Use no more at a time than can be well condensed. When this gold is used the borders of the cavity should be parallel and smooth, and the gold laid in folds and left over-lapping until they can be wedged; fifth, in filling cavities in the grinding surfaces of the first or second molars, or where the teeth are chalky and if the filling is to be either tin or amalgam, by all means use tin. If chalky teeth are filled with amalgam in the course of a few years they decay around the filling and re-filling is necessary, but where tin is used it is not the case.

DR. STEVENS: I am afraid of cocaine. From the operations and results I have seen and from what I have read, I would as quickly and readily recommend chloral as cocaine. Even a 2% solution of cocaine has, if truly reported, in one or two cases, caused death. The way I use the paper disk is with a little brass shield or disk I have here, which, as you will see, is straight on one side and concave on the other. It is reversible and can be made any thickness to suit the operator. This I find remarkably convenient in getting at cervical borders. If necessary you can make them oval for molars. With Dr. Perry's separators I can accomplish almost anything. They are better than wood wedges of any kind. In crowding the gum up from marginal cavities he used a floss silk ligature drawn tightly around the tooth and the ends cut close. With this he could crowd the gum to the process if necessary. He did not believe in using matrices, but thought if they must be used that a piece of broken file was as good as anything.

DR. CADY said, I never believed in the use of the matrix until lately. I was persuaded to use a Brophy pattern and think I will never put in another proximal filling without the use of it. Regarding the use of wedges, they can be made thin and kept in place by means of sandarac varnish. In finishing proximal fillings I finish down the cervical wall first, paying little attention to the rest of the filling until this is done. Sometimes I use the rimmed-disk for this purpose.

DR. GARRETT NEWKIRK: My experience with rim disks has not been entirely satisfactory and sand paper disks are too coarse.

DR. HARLAN: This subject deserves better discussion than has been given it. In all operations the rubber dam should be adjusted. The reason of many failures is because of not cleansing the mouth properly before beginning the operation. Again after perforating the rubber dam many use ropes to keep it in place. Why not soap the rubber dam where it fits over the tooth and use waxed silk, it is much easier done and more agreeable to the patient. Drying cavities before insertion of fillings needs more attention. Again, in preparing cavities too many retaining points and pits are often made. To be sure the cavity should have retaining form, but the bottom should not be covered with these pits. Again, in introducing the filling the matrix may be used satisfactorily in some cases, but with its use the same care should

be observed as when filling without, to obtain a good result. In separating, hydraulic pebbles of gutta-percha, red gutta-percha or waxed linen tape may be used. In separating in other ways, as by wedging or the use of separators, there is more or less danger of injury to the pulp or the member. I have seen many pulps destroyed by rapid wedging, so wedges should be judiciously used. Again in filling pulpless teeth many fill without cutting down the thin edges and failure results.

DR. L. C. INGERSOLL: Gold can be put anywhere, but it is a question how to put it in some cavities and condense it properly. Take for instance a compound cavity in the third molar and it is not as easy to condense the gold thoroughly to the cervical wall as in anterior teeth.

(To be continued.)

NORTHERN OHIO DENTAL ASSOCIATION.

CLEVELAND, MAY 18, 1887.

[Reported for the JOURNAL by W. H. Whitslar, D. D. S., M. D., Youngstown, Ohio.]

(Continued from page 277.)

BEST TREATMENT FOR BUCCAL AND LABIAL CAVITIES.

DR. J. E. ROBINSON, of Cleveland, opened the subject with a paper of which we give a synopsis. He said he felt it necessary to state, in order to understand the treatment declared, that he had become a convert to the parasitic, or more properly speaking, the chemico-parasitic theory, as the cause of caries in the human teeth.

Cavities that have their origin at the junction of the enamel and cementum, or those that have extended towards the cervical region of the tooth so far that when prepared for the filling the junction has been reached, will be the only ones considered at this time. Those entirely surrounded by enamel, as erosions and abrasions, though located on the buccal or labial surfaces of teeth requiring no different treatment from cavities located elsewhere, and, as a rule, are preferably to be filled with gold on account of its more sightly appearance. On the labial surface of incisors and cuspids we are also generally compelled, even when the cervical portion is reached, to use gold for the same reason, but when

we reach the buccal cavity, with no exposure to view, I have found greater success, formerly with a combination of tin and gold, and more latterly with a combination of Robinson's fibrous filling and gold prepared by enveloping a strip of the fibrous in No. 4 gold foil after the manner described by Dr. Lyder, of Akron, at a meeting of the Ohio State Society. This combination can be used with little or no danger of loosening in shallow cavities, where gold or even amalgam could not be securely anchored without strong retaining points or grooves. Another reason for its superiority is that slight moisture does not impair its welding properties to any extent, and so far as my observation goes the success of the filling is not jeopardized thereby.

This class of cavities is liable, even when the rubber dam is carefully applied, to become dampened by some spasmodic action of either patient or operator which will stretch the dam sufficient to permit the accumulated fluids to ooze stealthily through the minute opening and destroy the cohesive properties of gold, and consequently render the filling a failure when gold is used. In anterior cavities the operator has better control and can guard against this danger far better.

Dr. Miller, of Berlin, writing on this subject in the *Independent Practitioner*, for August, 1884, says: "I have made a number of fillings [of gold and tin? ED.] by way of experiment, completely under saliva; after a few weeks one cannot tell but that such fillings have been made with a perfect exclusion of moisture. It cannot be denied that a filling material which is not injured by moisture possesses an enormous advantage over gold or cement." If the bacteria, or as some, in derision, are pleased to term it, the "bug theory" is correct, it becomes necessary to remove all affected dentine, or when this is impossible from liability to uncover the nerve pulp and cause the probable destruction of this important organ, a complete sterilization of all unhealthy dentine that is permitted to remain must be accomplished. This can be readily effected by carbolic acid and I think without any danger to the tooth even if used in its full strength. It can be applied without pain in all cases and with greater effect if the saturated tent is passed several times rapidly through the flame of an alcohol lamp, bring it to about the same temperature as that of the oral cavity. Since using it in this manner I have had no case in which any pain was caused. In using the different

obtunders in this mannner I find them much less painful and much more effective.

It may be as claimed by Dr. Miller that the action of moisture on the tin is beneficial, but I use every effort to keep this class of cavities dry, as indeed I do all others, but never find myself stranded when the unfortunate leak does occur, as it often will in spite of the greatest care.

Neither tin and gold, nor the fibrous filling and gold can be carelessly placed in any cavity and good results expected. It must be carefully placed in position, in not too large blocks or strips and thoroughly condensed, or a failure will result. "Anon," a writer in the OHIO STATE JOURNAL, of about two years ago, and whom I have since learned to be a member of this society, very truly says: "If the same care is taken with this material as with gold, using no larger blocks than can be properly condensed, we shall have more good reports from it." Again he says: "Form your habit for hard work and thoroughness with gold and tin,"—meaning either alone—"and you will be inspired to your best efforts." The same applies with equal force when the combination is used.

It is well known that most cavities on the buccal surfaces of teeth are but slightly discolored and consequently decay very rapidly, while those of darker hue decay much more slowly.

Gysi of Switzerland, in the April *Dental Cosmos* says: "This discoloration is due to deposition of coloring matter into the partly decomposed tissue, and that comes from sulphureted hydrogen, from corrosion of the metallic elements which may be present in the mouth."

This is undoubtedly true in many mouths, even in the absence of metallic fillings, but this corrosion is assured when we have a material that oxydizes a little on the surface and so protects the margins of this dangerous class of cavities more thoroughly than gold, which remains almost unchanged in the mouth. With the fibrous filling alone, or in combination with gold, it will be observed when removed from the cavity, after being filled a long time, the color of the dentine is not changed under the filling, but retains its original color and is always hardened.

While many prefer the tin foil and gold, I prefer in all buccal cavities the fibrous, either enveloped in a strip of gold or filled in alternate layers of each. It has greater cohesiveness, can be

more thoroughly condensed and is absolutely without recoil when packing. It corresponds to oakum, which is fibrous, and used in stopping the leaks of vessels. It can be pushed thoroughly to the borders of the cavity, without danger of breaking any weak overhanging points, that are sometimes found in such cavities, and are almost indispensably necessary to preserve as retaining points. From a long and careful observation extending over a number of years, I know that tin and gold combined is a therapeutic filling, and were it not for the chemical change that takes place and consequent discoloration, when acted upon by the secretions of the mouth, would long ere this have become the ideal filling in all cases when not subjected to severe attrition.

In regard to the cohesive properties of the fibrous filling, there has been some dispute, which I look upon as captious. The truth remains that it unites, and I will not discuss it further here. In fact I delayed writing this paper until the last moment and almost determined not to prepare it on account of a lack of desire to seem to advertise, even in so small a degree, a material that I had done so much to place before the profession. When I made known my objections to the Chairman of your Executive Committee, and others who chanced to be present, and told them of the utter impossibility of writing on the subject assigned to me, without making the fibrous filling prominent, I was urged to relegate my modesty to the rear and give the truth as I believed it, then let the society draw its own conclusions, and perhaps by discussions, something might be drawn out that would lift us as a whole though I might be buried completely.

One further statement with regard to it and I have done. It is well known that tin, when super heated with free access of air, absorbs oxygen with great rapidity and still retains 100 parts of tin, and by continued ignition, putty of tin, or as it is scientifically known peroxyde of tin containing 100 parts tin +27.2 oxygen is formed. By the addition of a small per cent. of platinum, this latter result is delayed, and we have the tin combined with the oxygen in a fluid state, instead of a white powder, and capable of being cast into a solid ingot and made into the light fibrous condition that it is given to the profession, able under the mallet, or continuous and severe hand pressure, to be condensed into an almost solid block without the least fear of lamination.

DR. H. F. HARVEY, Cleveland: Buccal cavities are the most

difficult to operate upon. Sometimes they approach quite near to the pulp and often this is difficult to cap. In shallow, saucer shaped cavities the fibrous metal is not as good as gold, it cannot be made to stay like gold. My objection to the Robinson foil is, that is too thick, I have to pull it to pieces or use very coarse serrated instruments. It should be malleted thoroughly and condensed perfectly. I have no doubt but that in buccal cavities it is often preferable to gold. In combination with gold by finishing with the gold I find it is good. If the cavity extends below margin of the gum, fill under that margin with the textile and finish the portion that shows with gold. It is often better than tin alone.

DR HENRY BARNES, Cleveland, said he had used quite a good deal of the Robinson foil and found a brittleness in cutting. He wedges the foil and burnishes with an engine burnisher. Malleting is often done too much. Prefer burnishing to malleting. Cavities filled with gold and having decayed portions above the margin of the filling, he cut out decay and filled with amalgam sometimes. In labial cavities he uses tin to cover the bottom and covers that with gold.

DR. E. J. WAYE does not have serious objections to the fibrous foil. I prefer to use tin alone when I can, and prefer it to gold. Tin in the presence of chlorine forms an antiseptic. We find under such fillings a hard surface after years have passed since using the tin, which we have learned from experience to be a good reason for using tin. Tin really possesses cohesive qualities, that is, a good quality of tin. I can almost weld it, but of course not so well as gold. Have not used fibrous foil much. It must be condensed all over its surface with each piece or there will occur a sinking in after more foil is put in at the place where this defect exists. Textile foil may be as good as tin but not better. There are more failures in buccal fillings than any other, fillings with tin foil are more solid than with textile foil. I made quite a number of experiments with each and wrote a paper upon the subject, which perhaps was too strong against the use of the fibrous foil.

DR. J. E. ROBINSON then remarked that tin nor gold in the mouth changed in structure. Tin oxidizes and the oxide washes away. Miller says he doesn't know what to call the stannous compound formed by the action of the chlorine in the mouth,

and a combination of tin and gold does not discolor beyond the margins of the cavity. Tin will not discolor, but oxidizes. Heating tin a long time makes a powdered state, adding platinum and produced so as to pour into an ingot, then a feathery condition can be had. Gold and tin combined is almost an amalgam and saves the teeth. He spoke of the micro-organisms and their destructive influences.

DR. BROWN, Cleveland, said we all agree that tin is a good filling and also the combination of tin and gold. I am not impressed with Robinson's metal and can make a better filling with tin alone. It may be my fault and others may have the same fault in the crumbling of the foil. I cannot do with it as well as with tin. Combination of tin and gold is good, the tin hardens.

DR. STEPHAN: The lasting quality of any metal filling is about the same in buccal cavities. Build from the posterior margins of the cavity down around the cervical border and use gold as a wedge.

DR. BROWN was told by Dr. Corydon Palmer years ago how to fill with tin, and his instruction has been of great service to him ever since.

DR. PHELPS uses strips of the felt foil one-eighth of an inch in width and wraps them with No. 4 gold foil.

DR. CORYDON PALMER was asked to give some points upon filling with tin, of which the following is a synopsis: It was away back in '39 when I began to experiment. Using gold and tin together is a curious thing. I remember a dentist who came to Warren about the time I began to experiment, and he had his stock of instruments in his pocket along with his tobacco and et cetera. He said he would "detain" a few days. That fellow would take a rope of tin foil and wrap it with gold, and insert it so that when finished it would have the appearance of a gold filling. The fee for filling in those days was for gold, one dollar a filling, and for tin, fifty cents. It was the custom to fill the six anterior (front) teeth with gold and the back ones with tin, for poor folks used tin and often used tin and made gold show. There are teeth filled in that way which exist to-day I believe. A number of years ago there was a meeting of the Mississippi Valley Dental Society at which some of the college professors got up and stated that there was a galvanic action aroused when

two such metals were used in combination, and I answered, "What is the difference if they do well?" It was thought at the time to be bad practice. Now they use tin and gold in combination. If you make a tin filling make it of tin. If you will make a filling of the combination use tin under and gold on top then all is well. I don't know how to tell you how to make a tin filling. You must condense thoroughly and be careful. I used ropes of tin until I found the cylinder to be better. Have them bound together when inserted and pack in every direction. To make cylinders cut a strip off the sheet, fold upon itself and roll, in rolling draw out and make pointed, this forms a convenient article, but you will use more cylinders with square corners. For tin fillings in posterior and crown cavities of molars place one end of the cylinder deep in the cavity, and let the other end protrude to the posterior part. Fill in each corner and finally use one cylinder in the centre, and having interlocked the cylinders force them down and condense. Then repeat till the cavity is completely filled. It is difficult to tell just how to do it intelligently.

DR. W. P. HORTON, SR., said we must take into account systemic changes when treating different cavities. Must be governed by the tooth in the situation of the cavities. We must select rubber of proper thickness and use the right kind of clamps to shut out moisture. Gold is very good. Had used it in buccal cavities twenty years ago and the fillings are good yet. Others can be filled with cement and do well. I do not use tin and gold together, but the combination is favorable from what I have observed.

DR. J. W. LYDER said that in the treatment of buccal cavities he had better success with Delos Palmer's set of clamps, they being so adapted that that part of dentistry is often rendered painless, and where there is required special manipulation. In deep seated cavities I employ the Herbst method with the fibrous metal, using the fibres pulled apart so as to separate the thick felt, and often in capping using the fibres in that way to furnish a soft matting over the pulp, then finishing with tin, gold or amalgam. In operating in these cavities we must get down to them. It is better to use your favorite cement because you learn to manipulate it better than with some with which you are not familiar. Phosphoric acid used in cements, according to some, destroys the pulps. Uses the chlora-percha for capping in con-

nection with eugenol, creosote, or other remedies suitable for each case. With gold and tin he had not had so many failures as with the felt foil. Uses Brown's silver strips in finishing, as they do not tear like the paper and cloth strips. It is difficult to get disks small enough for buccal fillings, with the small ones we can get sometimes up under the margins of the gum without lacerating like the large ones do. I use tin foil No. 4 two-thirds the way up from the cervical margin, and finish with amalgam which is better than filling entirely with amalgam when that is used. I am well repaid for coming by Dr. Palmer's remarks. Tin is having its day and will be used more than ever.

DR. SEELY: I have had difficulty, and the point is to know what to do and to do it properly, with the least destruction of tooth substance. Often plastics do the work well.

DR. J. W. LYDER: What is the opinion of the society about gutta-percha?

DR. STEPHAN said that he used gutta-percha very much, and it is the thing in some cases.

DR. PALMER: I would like to say a word about the importance of having clamps that adapt themselves, and make tight the rubber, so as to exclude moisture. We often must have a special clamp. I make clamps to suit the case, or alter one that would answer. To alter sufficiently, you must use the flat-bowed clamp, because as a rule they are the most applicable. Take the temper out by warming and adapt the curve properly, and then retemper. To do this I warm it nicely and cool it in water, it will then be hard. Smear olive oil over it and hold it in a spirit lamp and burn the oil off. There is a disadvantage in having a stiff clamp and no necessity for having it stiff, because it gives more pain, and therefore it is not right to use such a one. It doesn't need a high temper either. Adjust clamp to put on rubber dam and fill the tooth, with gold if it is strong enough to stand it, or use a plastic filling for the time being. Gold gives one more confidence. We have to use our judgment about filling. Gold doesn't seem to do well in soft teeth. A good quality of gutta-percha should be tried for a while. In making clamps, he uses French rolled steel, and buys it from the supply dealers of watch maker's materials. Have used steel from corsets. Steel that has been rolled a great deal is hard to get the temper out of it.

DR. HARVEY: The pink gutta-percha is better than Hill's stopping.

DR. BARNES recommends the use of a good mouth wash in the treatment of buccal cavities, and knows of none better than listerine.

DR. J. W. LYDER: Now that I have drawn out the opinions on tin, gold, and gutta-percha, what about the phosphates?

DR. SEELY: I have taken oxyphosphates and used fibres from the textile foil and made good fillings, drying them with hot air.

DR. ROBINSON had never used this way of filling teeth, except in those of children.

DR. J. R. BELL: We are apt to believe that every cavity must be filled. I have a tooth in which there was a large cavity in the buccal side, this was ground and polished out and remains to-day just as it was at the time of the operation. It is often that cavities, when not too deep, can be polished and the filling of them is not necessary. We must be governed by the teeth, their hardness, etc. Soap is the best to wash the teeth, never a powder unless chalk or sulphur.

DR. J. E. ROBINSON said, Dr. Bell's teeth are hard, a *poor* filling in one would last a long time, but he will fail to make a success with the teeth of young people if he tries to polish out the cavities and let them go. Cleanliness is a great point.

DR. STEPHAN said that where cavities are large, cement is not as good as gutta-percha.

DR. HORTON: There is no difficulty in making clamps, and clamps, such as are sold for special purposes, often fail to do the work.

DR. GEO. H. WILSON said that there was much in the preparation of cavities, especially at the cervical borders where the enamel is apt to be chipped off.

(To be continued.)

Compilations.

"Gather up the Fragments."

DENTAL EDUCATION.

THE question as to whether dentistry is a profession *per se*, or a specialty of medicine, brings to the surface the fact that the majority of dentists are without degrees or college training, and

but a small per centage hold diplomas, dental or medical. The tendency is to make the college the door-way to the profession, and to this end some states have, and others are striving to enact laws making a diploma requisite to commencing practice. This is right as to the recruits, but unjust to the majority who have no diplomas, but render valuable services without them, they must stay where they are or cease to practice. The aforesaid majority may rebel, and dental laws, needed and right, go down in the reaction. Could every dentist hold a diploma honestly earned, dentistry as a profession would take a higher position, and difficulties in the way of further advances would be removed. But many of them have families and cannot afford the loss of time or the loss and damage to their practice, arising from attending two full courses of lectures, each a repetition of the other.

To remedy this I would suggest that the dental colleges prescribe a course of reading, including one or more of the dental periodicals, and allow any dentist of five years practice, or more, properly registered and in actual practice, under the laws of the state, to pay the matriculation fee, and follow the prescribed course at his home, and when ready, present himself at the proper time for examination, paying a reasonable fee therefor, and, if successful, receive a certificate which shall be equivalent to one course of lectures. If he afterwards takes one course of lectures, and successfully passes the final examination, he shall be entitled to his diploma. This will give worthy men in the profession a chance, and not open the back door for the recruits. I hope this will meet with some consideration. I can see much good and little, if any, evil in such a plan.—J. S. ROUNCE in *Dental Review*.

Editor's Specials.

"Write the Vision and make it plain."

REPORT OF THE MICHIGAN STATE DENTAL SOCIETY.

It is not the intention to review our very readable report of this late meeting. We are well aware that many dentists do not take a printed remark, that differs with opinion as reported, as kindly as they do a verbal statement similar, if made during the

discussions. Not able to go to the meetings, this is all the way we can take part, and we do not criticise dental brethren, but only remarks as reported; and we do so as kindly as we could speak if present. These remarks are made because some still believe that we criticise only when excited. Unless calm we don't write.

DR. J. TAFT asks why tartar is deposited.

DR. VAUGHAN intimates that in Steno's duct carbonic acid may hold the carbonate of lime in solution, and when the saliva reaches the oral cavity, the carbonic acid escapes, and we get a precipitate.

To hold in solution the calcium carbonate and phosphate, the saliva must have *free* carbonic acid, and unless this is forced away by heat, combination or other cause, the saliva, (as does water,) will hold it to the point of saturation. The free acid is usually taken by combination, and that with ammonia. Remove, or destroy its freedom, and both the lime salts are precipitated. Ammoniacal degeneration is a step toward death; and of the victim it may be truly said, "by this time he stinketh."

The paper on "Nitrous Oxide" is quite readable, and is mainly sound, most of the important ideas having been set forth long ago by Mr. Sprague, Dr. Watt and other experienced investigators. In the further notice of this paper we may come nearer to the setting forth of our own views than objecting to anything in the paper.

Not all danger from poison is avoided by using the gas compressed to a liquid. Twenty or more years ago the danger from chlorine was much greater than from nitric oxide. Chlorine is far more easily liquefied than nitrous oxide. However, it can not be obtained from pure nitrate of ammonia, while nitric oxide may be, and often is.

We think a better inhaler can be made with hinged valves than with unhinged, but they must work with but little friction and be so arranged that gravitation will close them. An inhaler on the general plan of Sprague's, with exit valve as close to the mouth as practicable, and immediately above this, let the tube be elbowed downward forty-five degrees from the horizontal, will answer a good purpose.

The general directions as to the adaptation of the apparatus, inhaler, etc. are good. We have found the following a good

mode for a trial test.⁷⁷ Instead of the oxide, take a bellows and pass *pure* air into the gasometer. Then so weight the gasometer that you can breath this as easily as you can breath air without intervening apparatus. This will require a pressure of over fourteen pounds to the inch. All tubes used should be glass or rubber—not rubber hose. And the walls of the rubber tubes must be so thick that they will curve regularly instead of making obstructing angles.

On page 222, May number, 1887, we find this sentence: "Persons suffering from asthma, angina pectoris, etc., claim that if they sit within two feet of a wall, facing it, there is a strong feeling of suffocation. This I mention to impress the profession how important it is that we give attention to the expiration, and especially when we are dealing with an agent that is *lighter than air*." (Italics ours.)

Does the author mean to say that nitrous oxide gas is lighter than air? It is heavier by more than fifty *per cent*. The vapor of pure sulphuric ether is more than two and a half times as heavy as the atmosphere.

Also on page 222 is this sentence: "It has been thoroughly proven that nitrous oxide will not support life any length of time." That may be, but it has been thoroughly proven by the experiments of Professors Wood and Watt that it will support that great function of life called *respiration*, for quite an appreciable time.

As to forcing the gas through a "long hose into the inhaler," it is very important that no *long hose* is used, nor long tubes of any kind.

The conversation by the two professors, as recorded near the top of page 223, is fairly stated as an interview between the late Prof. Geo. Mendenhall and the writer of this. The former had not been a teacher in the DENTAL COLLEGE since the session of 1852-3, but was at the time a Professor in the *Miami Medical College*. At that date, 1866, Dr. M. probably led the physicians of Cincinnati, in business and income. As to the darkening of the complexion, we have used the gas many times a day, for months in succession, without the occurrence of change of complexion, or of the action of the heart.

On page 226 is this: "Place a large rubber apron around the neck and over the lap of the patient." Oh, don't, please;

for no "kind and cheerful words" of yours can allay her fear that the same apron has been thus placed around and over fifty-seven prostitutes and ninety-three rotten pimps, and she will dream they have all turned to dirty demons, and are tormenting her like the "Legion" did the man among the tombs. And of course she will scream and struggle, and you will have to record a failure, whether you get her tooth out or not, if your diary is to be truthful.

No, no! no "large rubber," but glazed muslin, duck linen, Irish linen, "water proof" goods, or common goods, made waterproof. Take it out of your dressing bureau, carry it, still neatly folded and pressed, into the presence of your patient, unfold and place in position, and she will not feel disgusted, and possibly she may call again, or send her "sisters and her cousins, and her aunts," if not her own mother. When you remove the large apron throw it aside as a polite person does a table napkin, as if it were not possible for you to think of using it again, till after its regular passage through the laundry.

A little below we read, "Examine the teeth and place the jaw-brace opposite the teeth that are to be abstracted." J-a-w—jaw, b-r-a-c-e—brace, jawbrace. Yes, that spells it; but "what the—*Moses*" is it? Is it some hard thing to prop open the mouth? Oh, no, please don't; for she will wonder how long since it was in a mouth bestudded by chancres, and you may fail again. Besides, if the gas is properly administered, in its purity, the barbarous thing is quite unnecessary. The patient will open her mouth more readily and promptly than if the gas had not been used. We *know* what we say.

An assistant should stand near you, but not in direct view of the patient. All such surroundings suggest that danger is suspected. Don't let the patient see the forceps; and if not more than four or five are needed, conceal them in private pockets, and be sure you remember the exact situation of each instrument. This is much better than having an assistant hand them to you. You may have to tell him which one you want; and you ought to remember that not a word should be said from the beginning to the end of the operation, if such can be avoided. Many operations are defeated, or at least rendered unpleasant, by thoughtless whispering.

You don't want rapid, but full breathing to clear out the

lungs. Voluntary rapid respiration is toward suffocation, and is very exhausting. The reason the patient ought to have fresh air only, for a few breaths, is that carbonic acid, (and sometimes carbonic oxide) accumulates very rapidly at first. Let them pump this out, and but little trouble will be given afterward by the poisonous mixture. After such clearing out, most patients incline to breathe slowly, and we should let them. Some patients will exhale, and then rest ten, twenty, or thirty seconds, without the slightest feeling of, and without the slightest external symptom of suffocation. A man who cannot tell by external signs that the patient neither desires nor needs breath, at this stage, while resting, should not use the gas. At the next breath, after such a rest, if atmospheric air is substituted for the gas, the patient feels wronged, if not insulted. But a few more inhalations are needed after this stage. (With patients we understand, and who understand us, we usually allow the patient to remain conscious throughout the operation, whether gas or chloform is used. Anæsthesia is not unconsciousness, and *not delirium*.)

On page 226 we read, "As soon as the operation is performed the nostrils should be moistened with *aqua ammonia*." In the name of humanity,—No! Cauterize the delicate and very sensitive mucous membrane of a refined young lady? She ought to send her big brother to horsewhip you. If ammonia is needed, it is at the air cells, and if convenient to admit it through the mouth so much the better. In the cells its causticity is at once overcome by its union with carbonic acid. That is the idea. Nothing is gained by torturing the nose. Don't substitute carbonate of ammonia, even though it might stimulate the nasal membrane.

But let us suppose your gas was pure, and that you used it properly, and the operation is over, let your patient be quiet and still. Not once in five hundred times will she swallow blood. Watch the countenance composedly, and when you see a sign of returning consciousness, (provided there has been unconsciousness) speak, softly, slowly and in a low tone, *not a whisper*, saying "You have a little blood in your mouth, please spit it out here;" and as soon as the blood is out let the patient recline the head back on the rest and remain till ready to take care of herself.

Don't touch the patient with a sponge. She will suspect it has washed the face of a "seven-year-itch" victim, if not some-

thing far worse. And it is not needed for this. Paper napkins are cheap, and even linen ones are not dear; but your patient is *dear* to some one.

We never liked mixed anæsthetics; and it is a poor defence of them to say "I have never seen any bad results;" for negative testimony doesn't go far against positive; and how little has any one seen? and how trivial the result could we mass all that we have seen.

A man, for the sake of science, if of no use to others, perhaps has a right to try desperately dangerous experiments on himself, but circumstances must have been very strange to justify giving, as an *experiment*, "five hundred gallons of the gas in forty-eight hours," to one man. So many red corpuscles would be killed by such administration that a victim would not gain his full voluntary force, mental and physical, for months, if ever. We judge no one; but unless the circumstances were beyond our imagination the experiment was not justifiable.

On page 228, Dr. Vaughan is reported as saying that "Nitrous oxide decomposes to some extent and leaves oxygen in the blood." Correct! and that is why it sustains respiration for a time; but the oxygen is active, nascent, or "as ozone." Take which term you please, reader.

Same page, Dr. Long asks "if some of the nitrous oxide is not eliminated free." Certainly, and some of the atmospheric oxygen is "eliminated free," in respiration. And no one can assimilate all the nutriment from the food which he swallows. Part of it is eliminated free.

TRUE HISTORY OR NONE.

IN a paper read before two of the New York Societies, by C. S. Crittenden, D.D.S., L.D.S., is this expression: "The profession ought to raise a monument to Mr. Watts, as it was from this preparation of gold that the first adhesive foil was made."

Certainly, let the monument be raised; and if able to buy a jewsharp, with pianos at fifty cents a dozen, we would help to raise it. But Dr. A. M. Leslie was making cohesive gold foil before Dr. C. and ourselves knew there was such man as A. J. W. His trouble was to get it non-cohesive. The same remark is prob-

ably true of his brother, Dr. James Leslie, but we did not have an acquaintance with him at a date so early. Cohesive gold, and contour fillings were well known, before the A. J. W. gold was introduced. All honor to A. J. Watts, but history is history.

THE VERY THING TO DO.

THE Illinois State Dental Society has undertaken a great and good thing, and they want financial aid from each and all the readers of this Journal, and from all who ought to read it, which includes all the dentists and most physicians.

It is proposed to raise a fund to enable Dr. G. V. Black to devote his time and talents to the advancement of dental science. We need not tell you that the society has undertaken the proper duty and has selected the right man. You know all that. Send your money to Dr. T. W. Brophy, Chicago, Ill., and it will not be wasted.

"IS DENTISTRY A SPECIALTY IN MEDICINE?"—A NEW DEPARTURE.

WE call attention to the resolution passed by the American Medical Association at its meeting last month in Chicago. It is printed on another page under the above heading. Read it and think over it. The next question is, what becomes of the dental "profession (?)". if dentists accept this invitation to be swallowed.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

ARTHRITIS.—DR. E. MAGITOT uses the word arthritis in place of periostitis claiming it to be a more correct and scientific term.

FOR CAPPING.—Compound tincture of benzoin is a good preparation for the covering of exposed pulps; being non-irritating and forming a thick film over which the cements can be safely applied.

FOR POLISHING.—A piece of pumice stone shaped like a "Water of Ayr," or Scotch stone, answers better for polishing than sand paper.—*British Jour.*

PICKLING SOLUTION.—An excellent pickle for gold work may be prepared from the following formula: oxalic acid, $\frac{1}{2}$ oz.; sulphuric acid, 1 oz.; water, 6 oz.—*Independent Practitioner*.

ALUMINUM SOLDER.—Take 20 parts aluminum and 80 parts zinc. Melt the aluminum then add the zinc with a little fat, stir this with an iron rod and pour into molds. Another formula is 90 parts aluminum and 10 parts tin.—*Western Dental Journal*.

CELLULOID CEMENT.—One part shellac dissolved in one part spirits of camphor and 3 parts of 90 per cent. alcohol. The cement should be applied warm, and the broken parts securely held together until the solvent has entirely evaporated.—*Scientific American*.

FOR REGULATING.—DR. WILLIAMS says the jack-screw gives a certain pressure, and then the tissues have a chance to rest. If it is continuous pressure, like that of rubber bands, that causes irritation and devitalization; too continuous effort of any kind brings exhaustion. Alternate exercise and rest is the principle of health; and the use of the jack-screw implies that.

ANOTHER ORGANISM.—By means of a lense constructed for him on new principles, Dr. Dallinger has discovered an organism entirely new to science. It is endowed with six motile fibres, and acts as a gleaner in putrefactive fluids, hitherto considered as exhausted, breaking up the minute particles into their original elements until not a vestige remains.—*Dental Record*.

RUBBER DAM HOLDER.—DR. HERBST, instead of using a clamp for holding the rubber dam in position, cuts the point from a common pin, flattens it a little with a hammer, curves it to make it partially conform to the shape of a tooth, and inserts it next the tooth to be filled. The rubber dam is then hitched over it, and thus held until the ligatures can be adjusted. He thus reduces the discomfort to the minimum point.—*Independent Practitioner*.

VULCANIZED INDIA RUBBER.—According to M. Balland the gradual loss of elasticity frequently observed in articles made of vulcanized India rubber is due to the slow formation of sulphuric acid by the action of atmospheric moisture on sulphur present in the rubber. He recommends that the action of the acid should be prevented by occasional prolonged washing of the article with water or with water rendered slightly alkaline (*Jour. Pharm.*, April). In this way he has been able to maintain drainage tubes in a supple condition for a considerable time.

NEW ANTISEPTIC COLLODION.—Balsam of Peru, 1 gramme; mastic in globules, 3 grammes; narcotine, 1 gramme. Each ingredient ground separately and 5 grammes of chloroform added makes a new kind of collodion which is antiseptic and promotes cicatrization. It does not cause inflammation and is efficacious in the treatment of wounds, bruises, neuralgia, etc. The affected parts should be sponged with it every twenty-four and in serious cases every six hours. If strips of linen be soaked in this collodion, an excellent sticking plaster is obtained.—*Journal de Médecine*.

MELOTTE'S MOLDINE.—I have found moldine very useful in repairing gold, and silver-plate and bridge-work. The tooth or teeth and plate can be invested by molding moldine over and around the parts to be soldered, and the work at once heated up; thus saving much time and trouble usually

resulting from the use of wet mixtures as investments. Impromptu crucibles for small melts of any kind can also be made of moldine. A thick gold collar or ring, or cross bar, or any small article, can be cast in a moldine mold, which is easily and quickly formed from a suitable model, and is ready for use as soon as made.—F. B. in *Cosmos*.

A FLUX.—The following is exceedingly useful in bridge-work: Put in a cup Boracic Acid, 1 oz.; Ammonia, $\frac{1}{2}$ oz.; Carbonate of Ammonia, $\frac{1}{2}$ dwt.; Bicarbonate of Soda, 2 dwt.; Water, 4 oz. Boil until the fumes of ammonia are no longer given off. Coat the bridge or other work all over the gold with the flux. Heat it over a spirit lamp to dry it on. Give it another coat, if needed, leaving no part exposed. Then scrape off where it is desired that the solder shall flow, and it will go nowhere else. The work will come out of the heating as bright as when it went in, and the solder will be smooth. The polished surfaces will not be corroded or blackened.—H. W. Howe, D.D.S., in *Independent Practitioner*.

WHAT NEXT?—A curious account of a Chinese anæsthetic is given in *Nouv. Remedes* for April. It appears that Dr. W. Lambuth mentions in his third annual report of the Soochow hospital an experiment made, at the suggestion of a Chinese doctor, with this preparation. A substance resembling wax, but harder and semi-transparent, in the form of a tablet, was cut into small pieces and digested in water for twenty-four hours, together with a small white, woody excrescence. The liquid was then found by Dr. Lambuth to possess well marked anæsthetic properties. It was found that a numbness of the lips and tongue was produced, and that the finger immersed in the solution for some minutes could then be pricked with a needle without any pain being felt. The tablet was described as being the juice of the eyes of a frog. It was probably the substance obtained by the Chinese by placing a frog in a jar containing flour and irritating the animal, when it exudes a liquid which forms a paste with the flour. This is then dried and made into cakes bearing some resemblance to button lac. If the anæsthetic property be due to the frog's excretion and not to the white, woody excrescence above mentioned, the fact suggests the possibility of the animal using the secretion to deaden the pain to which it might be subjected by its enemies.

A CORRECTION.—The article in our last issue in regard to "preserving the permanent molars by cutting away the proximal surface of the temporary molars to avoid contact, etc.," was by error credited to the wrong person. Dr. E. T. Darby was the author of the statement instead of Dr. W. N. Morrison. Dr. Morrison is decidedly averse to such heroic treatment and denounces this particular practice as follows:

"The cases where it should be admissible to cut the proximal surfaces of teeth (deciduous or permanent) are very rare indeed. Where they are spaced apart and have shallow surface decay and rough, thin enamel edges, it would be admissible, but then they rarely need it.

To cut away any tooth, or teeth, so as to throw their cervical margins in contact, I must ever protest against, and make war upon such teachers and teachings, wherever found.

My method of treating proximal decays is to space the teeth apart considerably with cotton, wedging them twenty-four to forty-eight hours, and then

contour them boldly, bracing the teeth firmly against one another, and if possible increasing the size of the arch, and bridging the amalgam or filling used across from one to another, almost amounting to bridge-work, with amalgam, going thus to the other extreme of that heroic cutting recommended by Dr. Darby."

Societies.

"Wherewith one may edify another."

MEETINGS.

Wisconsin State Dental Society, Milwaukee, Tuesday, July 19, 1887.

Pennsylvania State Dental Society, Glen Summit, (near Wilkesbarre, Pa.) Tuesday, July 26, 1887.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, August 2, 1887.

American Dental Association, Niagara Falls, N. Y., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 25, 1887.

Ohio State Dental Society, Springfield, Tuesday, October 25, 1887.

THE NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

THE annual meeting of the National Association of Dental Examiners will be held at Niagara Falls, on Monday, August 1st, 1887, at 3 P. M.

FRED. A. LEVY, *Sec'y.*

IS DENTISTRY A SPECIALTY IN MEDICINE?

THE AMERICAN MEDICAL ASSOCIATION SAYS YES!

WE understand that the significant action taken by the association was largely due to the efforts of Dr. W. W. Allport. Dr.

Davis, who offered the resolution, is President of the International Medical Congress.

Resolved, That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education and a term of professional study equal to the best class of the medical colleges of this country, and embrace in their curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction in dental and oral medicine and surgery, in place of practical and clinical instruction in general medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

Dr. N. S. Davis in introducing the resolution said he wished to explain its object. There are two objects to be had in view, first to relieve a degree of embarrassment that exists between the regular profession as we consider it, and the profession of dentistry. The department of dental and oral surgery is a part of the profession of medicine as much as the department of ophthalmology or otology or any other ology. Our teeth and mouths are a part of our system as much as any other part, and are used more than any other part. The embarrassment is this, that in the history of the development of dentistry it originated mostly in mechanical operations. Steadily it has advanced, and in years gone by—quite a number of years ago our lamented S. D. Gross made a proposition that an oral and dental section be provided as a section in this Association. It was seconded by Dr. Sayre and myself, and it was organized. The International Medical Congress of 1881 provided a section for dental and oral surgery. The Congress to be held in Washington has done the same thing, and it will be one of the most thorough and best organized sections in the Congress. There is an embarrassment in this respect. It is to know just who and by what line of demarkation those engaged in that department shall be recognized as members of the regular profession. Now it is proposed to make a line and draw it where this resolution says, that all those who are qualified by general education and a course of study equal to the best medical colleges, a curriculum embracing the entire fundamental principles of medicine with the provision that instead of special instruction in clinical medicine and surgery instruction may be had in

dental and oral surgery, and shall be recognized as members of the profession of medicine. It will take away a sort of embarrassment. There is a more far reaching and more valuable underlying object in this resolution, and that is that to be recognized as a member of the profession, if this resolution is adopted by this body, they must have the education received in schools that require these qualifications it makes a strong lever to lift up the course of study in the dental schools. Such are my reasons for bringing up the resolution. I will say nothing more on the subject.

The motion was made that the resolution be adopted by the Association and it was carried unanimously.

AMERICAN DENTAL ASSOCIATION.

THE twenty-seventh annual meeting will be held at Niagara Falls, commencing Tuesday, August 2d, 1887. The officers having decided to change their place of meeting from Asheville, North Carolina, to Niagara Falls, it is hoped that we may have a large attendance. The principal reasons for making the change were, that many dentists residing in the south desired to attend the meeting of the Southern Dental Association, and also the International Medical Congress, to be held in Washington, D. C., Sept. 5th, 1887, both gatherings coming close together. The American Dental Association would, they thought, have a larger meeting in the north this year than would be the case had they gone to Asheville. Next year the Association may meet in the south, when it is believed we will have many accessions to our ranks. You are especially urged to be present at Niagara, and help to make this one of the best meetings ever held by the Association. Arrangements are being made with railroads and hotels to secure their best rates, due notices of which will appear in the July issues of the journals.

W. W. ALLPORT,
President.

GEO. H. CUSHING,
Recording Sec'y.

A. W. HARLAN,
Corresponding Sec'y.

THE NORTHERN OHIO DENTAL ASSOCIATION.

THE twenty-eighth annual meeting was held in Cleveland, May 10, 11, 1887.

Drs. Fred H. Lyder, Akron; L. G. Meyer, Cleveland; C. H. Griffen, Ravenna; and W. S. Smith, Cleveland, were elected to active membership. The following telegram was sent to the Illinois State Society: "The Northern Ohio Dental Association, now in session, to the Illinois State Dental Society, at Jacksonville,

'GREETING,'

May your course in the paths of scientific achievement be onward and upward, and your history brilliant with noble accomplishment." Signed, J. R. BELL, *President*.

In response the following message was received:

JACKSONVILLE, ILL., May 11, 1887.

TO DR. J. R. BELL, PRES. N. OHIO DENTAL ASSO.,

Cleveland, O.:

The Illinois State Dental Society, now in session, to the Northern Ohio Dental Association, at Cleveland, your fraternal greeting is received. We reciprocate the kind feeling expressed, and Illinois joins Ohio in her noble efforts to elevate the profession. Signed, W. T. MAGILL, *President*.

The Northern Ohio Association is growing and its next meeting (annual meetings only), at Painesville promises to be a good one. The officers for 1888 are: Geo. H. Wilson, Painesville, President; H. F. Harvey, Cleveland, Vice-President; W. H. Whitslar, Youngstown, Secretary; S. B. Dewey, Cleveland, Corresponding Secretary; Chas. Buffett, Cleveland, Treasurer. Executive Committee: S. B. Dewey, Cleveland; J. W. Lyder, Akron; H. Barnes, Cleveland.

NORTH CAROLINA STATE DENTAL ASSOCIATION.

THE thirteenth annual meeting was held at Morhead City, June 7, 8, and 9, 1887. The meeting was well attended and its proceedings were of great interest. The following officers were elected for the ensuing year: *President*, T. M. Hunter, Fayetteville, N. C.; *First Vice President*, Sid. P. Hilliard, Rocky Mount, N. C.; *Second Vice President*, C. L. Alexander, Charlotte, N. C.; *Secretary*, H. C. Herring, Concord, N. C.; *Treasurer*, J. W. Hunter, Salem, N. C. The President appointed as *Executive Committee*—V. E. Turner, Chairman, Raleigh, N. C., J. E. Mothens, Kenansville, N. C., B. H. Douglas, Asheville, N. C.

Next meeting will be held in Raleigh, beginning on the last Tuesday in May, 1888.

H. C. HERRING, Sec'y, Concord, N. C.

ILLINOIS STATE DENTAL SOCIETY.

At the annual meeting held in Jacksonville, May 10, 11, 12, 13, 1887, the following officers were elected:—*President*, Dr. C. B. Rohland, Alton; *Vice President*, Dr. C. Henry, Jacksonville; *Secretary*, Dr. Garret Newkirk, Chicago; *Treasurer*, Dr. T. W. Pritchett, Whitehall; and Cairo selected as the place of the next annual meeting.

OHIO COLLEGE OF DENTAL SURGERY v. ROSENTHAL. *

SUPREME COURT OF OHIO.

(DECIDED MAY 10, 1887.)

THE plaintiff in error is a corporation organized under a special act passed in 1845. It was not organized for profit and has made none. Its object was the maintenance of a college for instruction in dental surgery. Its capital consists of \$12,000 in real estate, derived from the proceeds of one hundred and twenty certificates of shares which certify that the holder of each share "is entitled to one share of the real estate property of the college, drawing an interest of 6 per cent." On the margin of each certificate, and a part of it, is: "Shares, \$100 each." At this sum each certificate was valued and sold. All the shareholders are dentists and members of the corporation. Its capital—the real estate above mentioned—has always constituted its entire property. During its existence (a period of about forty years) no interest has been collected or paid on any share. It is still a going corporation, and its capital—the real estate—is indispensable to its existence. The plaintiff below, a shareholder, brought his action, in 1882, to recover a money judgment for interest on his share. *Held*: The action is not maintainable.

ERROR TO THE SUPERIOR COURT OF CINCINNATI.

Plaintiff in error was incorporated under a special charter set forth in the local laws of Ohio, Vol. 43, p. 32. Its charter constitutes nine persons named and their successors, a board of trustees, with power to establish a college of dental surgery; makes the trustees a body corporate; gives it power to acquire, hold, and convey property for the endowment of the college, to contract and be contracted with, and provides that the revenues from the property it may hold shall not exceed \$5,000 per annum.

That the officers, a president, vice-president, registrar and treasurer shall be elected by the board. That the board shall appoint the professors, and

may dismiss them at any time; and may make by-laws for the government and well being of the college; and shall by election fill vacancies occurring in the board.

The plaintiff below, C. H. Rosenthal, brought his action in the Superior Court of Cincinnati, July 18, 1882, upon a certificate of the following tenor, with its assignment:

"\$100.00

No. 30.

"OHIO COLLEGE OF DENTAL SURGERY.

"This is to certify that J. B. Smith, M. D., is entitled to one share of the real estate property of the college, drawing an interest of 6 per cent., and transferable only in accordance with the constitution of the college association.

"Cin., Feby. 16th, 1858.

CHAS. BONSELL,	} Trustees
JAMES TAYLOR,	
JOHN ALLEN,	
THOS. WOOD,	
H. E. PEEBLES,	
By his attorney, JAS. TAYLOR."	

"I do transfer within share of stock to C. H. Rosenthal, with all my rights and interests.

MARY E. SMITH, Administratrix."

The object of the action was to recover interest claimed to be due the plaintiff, and the prayer of the petition was for a judgment against the corporation for \$146, and for all other relief to which he was entitled. The case was reserved to the general term where it was heard upon the following agreed statement of facts:

"It is agreed, that the paper writing, a copy of which is incorporated into and made part of the petition in this cause, a copy of which is hereto attached, marked Exhibit "A," and made part hereof, was executed by the trustees of defendant corporation, having authority so to do, and delivered to J. B. Smith, M. D., at the time at which the instrument bears date, and that at that time J. B. Smith, M. D. paid to defendant corporation the sum of one hundred dollars therefor. It is further agreed, that J. B. Smith having deceased, Mary E. Smith was duly appointed administratrix of his estate, and being duly authorized, did prior to the bringing of this action, for value endorse said instrument to plaintiff in the following words:

"I do transfer within share of stock to C. H. Rosenthal with all my rights and interests, Mary E. Smith, Administratrix," and deliver the same to him. It is further agreed that plaintiff now has possession of said paper, with such title, if any, as such assignment conveyed to him and no other. It is further agreed that defendant corporation owns no property or assets of any kind, except the real estate described in plaintiff's petition. That said real estate was purchased at or about the date of the organization of the corporation. That at the date of the organization of defendant corporation, the money to purchase said realty was obtained by the corporation issuing paper writings, all being alike in tenor and effect of which Exhibit "A" is one. No one could be a member of the corporation, unless he subscribed for, and paid up in full one or more shares. That the corporation originally issued one hundred shares, and subsequently twenty additional shares, making in the aggregate

SHARES, \$100.00 EACH.

one hundred and twenty shares, of which Exhibit "A," hereto attached, is one. The certificates were subscribed for and paid for at different dates. That any one otherwise qualified, who subscribed for and paid for one or more shares became, by virtue of the ownership thereof, a member of the corporation, and any one by purchase of one or more shares became a member of the corporation. That defendant corporation has not and never had any capital stock other than said shares so issued, and no property other than the real estate described in the petition of plaintiff, purchased as aforesaid, with the funds realized from the subscriptions to such shares. That the corporation has made no profits. That there are no funds now in the hands of the trustees of the corporation belonging to it. That no interest has ever been paid by defendant corporation to any of the holders of certificates of shares, and no demand has ever been made for interest by plaintiff or any of the holders or owners of certificates upon the certificate in the possession of the plaintiff hereto annexed as Exhibit "A," or upon any other certificates, excepting only the demand of plaintiff made at or about the time of bringing this suit, and the demand made by J. L. Cilley about the same time upon a certificate claimed by him and for which suit is now pending, and a demand made by one, E. C. Bryant about the ——— day of ———, 1870, and for which suit was then brought in the Superior Court, of Cincinnati, by E. C. Bryant against defendant corporation and which was finally settled by a compromise then made between said E. C. Bryant and defendant corporation. That defendant corporation has ever since its organization occupied and used and is continuing to occupy and use the real estate in plaintiff's petition described for the purpose for which the corporation was organized, to-wit, maintaining or causing to be maintained therein a college for instruction in the science of dental surgery, by renting the property to another association, known as the Dental College Association at a nominal rent. The faculty of the association are chosen by trustees of defendant corporation, and all the members of the association are shareholders in defendant corporation. That all the members of the corporation are dentists by profession; that plaintiff is a dentist. That defendant corporation annually holds an election for the selection of trustees thereof, at which election the holders and owners of certificates of shares, and they only are permitted to vote. The property described in the petition, and the affairs of said corporation, are managed and conducted by the trustees so chosen by a majority vote at elections, and is now being controlled by a board of trustees so elected. That the fair value of said real estate is about \$12,000. Defendant was incorporated under a special act of the legislature passed January 21, 1845, found in local laws of Ohio, Vol. 43, p. 32, which act is made part of this agreed statement of facts by reference. The transfer to plaintiff in form, if otherwise valid, is proper." The court rendered judgment against the college for \$99.00, being the interest on \$100.00 computed from a period fifteen years prior to the commencement of the action to the time of the judgment. To reverse this judgment the present proceeding is prosecuted.

Owen, C. J.

The action below was prosecuted upon the supposed promise of the college to pay interest at six per cent. upon \$100, the stated value of the share represented by the certificate. The discussions of the case have developed a

broad diversity of opinion concerning the true construction of this certificate and the real intention of the parties to it at the time it was issued. We are not called upon to solve the proposition; what does this certificate mean? We are simply required to say whether it was, at the time the action below was commenced, a matured promise to pay six per cent. interest on \$100. If it was not, no matter what else it is or was intended to be. The certificate certainly does not bear an express promise to pay interest. No time of payment is named. There is no principal which can mature at any time prior to a dissolution of the corporation, and then nothing short of a "share of real estate" can satisfy the liability it represents.

In *Waterman v. Troy & Greenfield R. R. Co.*, 8 Gray, 433, an action was brought upon the following agreement, for the recovery of interest:

"We, the subscribers associated in this enterprise, do hereby severally agree with said corporation to take the number of shares placed against our names respectively, upon the following terms and conditions, viz.: until the proposed railroad is put in operation, interest shall be allowed upon all sums assessed and paid in, and each subscriber shall have the privilege of paying in at any time the whole or any part of his subscription, and shall receive interest thereon until the road goes into operation."

Bigelow, J. speaking for the court said: "This is not a case where interest is claimed as incident to a principal demand; but it is an action on an agreement for the payment of interest alone, as an independent substantive debt. No time is expressed in the contract for its payment. The question is, whether any can be fairly inferred from the terms of the contract." The court held that interest did not accrue until the road went into operation, although several years elapsed between the date of the contract and the completion of the road.

In *Wright v. F. & M. R. R. Co.*, 12 Cush. 68, the stockholders of a railroad company, at the first meeting voted: "that all subscribers be allowed interest on all sums paid by them up to the time when the road shall be completed and put in operation." It was held that by this vote interest was not payable until the road was completed. Shaw, C. J. says: "taking the legal obligation of the company to pay interest, on the ground on which the plaintiff places it, interest was not payable annually, or at any other period; because the votes did not so provide, —. We think there was no implied promise to pay interest annually, even if such promise might be implied from undertaking to pay money at a distant day, with interest in the meantime, because, here was no debt, no principal sum to be paid. *The directors have put no practical instruction upon the votes by paying annually.*"

In *R. B. R. Co. v. Thrall*, 35 Verm. 543, a subscription was conditioned that: "Interest shall be allowed and paid by the company on all dues assessed and paid, from the time of payment until the railroad shall be put in operation." It was claimed that this condition was in substance an agreement by the company to pay back to the subscribers part of the capital required by the charter and void. The court say: "We deem this point untenable. No time is fixed for the payment of interest. Upon a similar proviso in *Waterman v. Tracy & Greenfield R. R.*, (cited supra,) it was held that the agreement did not bind the company to pay interest before the road went into operation."

It is well settled that our statutes relating to interest were intended to fix the *rate* and not the time of payment. *Monett v. Sturges*, 25 Ohio St., 385; *Cook v. Courtright*, 40 Ohio St., 248.

"An act to fix the rate of interest," (29 O. L. 451,) in force when this certificate was issued, provided: "that all creditors shall be entitled to receive interest on all money, *after the same shall become due*, either on bond, bill, promissory note, or other instrument of writing, or contract for money or *property*; * * * at the rate of six per cent. per annum and no more." If parties would have their agreements bear interest before maturity, or if they would have the interest payable at an earlier day, they must so stipulate. The tendency of this court to hold parties to the express stipulations of their agreements, so far as they concern the time of payment of interest, is well illustrated by *Patterson v. McNeeley*, 16 Ohio St. 348. In that case a promissory note had the following clause: "the above to be at ten per cent. annually." The court say: "the whole clause certainly contains no express reference to anything else than the rate of interest which the note shall bear, and the words used are all pertinent and necessary in defining that rate with precision. And we see no room for the inference that anything more was meant than that the note should bear interest at the rate of ten per cent. per annum." It was held that the word "annually" was to be understood as relating to and defining the rate of interest, and was not a stipulation for the annual payment of interest.

There are no words in this certificate, to suggest, in the most remote degree, when the interest was to be paid. If the parties intended it to be a "contract for property," (in the language of the interest act above cited,) which should bear interest to be paid before the principal was due, they were unfortunate in the selection of language to express that intention.

2. There are other considerations, however, which seem conclusive against the construction which the defendant in error claims for this certificate. While its charter gave to this corporation power to make contracts, this power, by a fundamental rule of construction, is to be limited to the making of such contracts and such only as are likely to promote the general purposes of its creation. The corporation was not organized for profit and it made none. All its members are dentists. So is the plaintiff. The purpose of its organization was the maintenance of a college for instruction in the science of dental surgery—an enterprise in which all its members, as well as the plaintiff, had an interest beyond the hope of mere private pecuniary gain. There were issued in all one hundred and twenty certificates of "shares of real estate property of the college,"—"shares \$100 each." These certificates represented, without interest, \$12,000. It is agreed that this sum represents the entire property of the college. We do not feel at liberty to give a construction to this certificate which must imply that the parties to it intended that its enforcement would inevitably work a dissolution of the corporation and the defeat of the purposes for which it was embarked. If the holders of these certificates may successfully press their demands for interest upon them, the utter destruction of the corporation and defeat of its purposes are inevitable. Each certificate holder was and is a member of the corporation. The certificates represent, exclusively, its capital. The money paid upon them was invested in the real estate which constitutes its entire assets.

It has made no profits. There has never been a time in its history when the demand and enforced collection of interest on its certificates would have had any other effect than its complete dissolution and the hopeless defeat of the only purposes of its organization. The suggestion that these dentists, while pretending to set on foot an enterprise for the maintenance of a college for instruction in the very important and useful science of dental surgery, were really concocting a scheme to constitute themselves pensioners or annuitants upon the college, and hence upon each other, to the extent of \$6.00 a year for each certificate, involves too grave a reflection upon either their good faith or their sanity to justify us in reaching such a conclusion without a clear expression of such a purpose. The improbability if not the absurdity of such a construction of these certificates will become apparent when we reflect that these pensions or annuities could only be paid out of the capital of the college! An attempt to enforce their collection would inevitably involve the entire enterprise in hopeless ruin. It not only aids us in construing this contract, but it is highly creditable to all concerned in the college, to recall the fact that although it is more than forty years old, not a dime of interest has ever been collected or paid upon any of its certificates!

We have seen that in the case of *Wright v. V. & M. R. R. Co.*, *supra*, much significance was attached to the fact that the parties had construed the contract by failing to provide for the payment of interest before the completion of the road.

3. We may well conclude our consideration of this case with the proposition that if this certificate is to be construed, (as the defendant in error contends,) to embrace a contract to pay interest either annually or on demand, out of the capital of the college—and it must be paid out of the capital if at all—the contract is a nullity. In *P. & H. R. R. Co., v. King*, 17 Ohio St., 534, the directors of a railroad corporation assumed to sell shares of the capital stock, stipulating, expressly, for the payment of interest annually on such stock until the completion of the road. As in the case at bar it appeared that the company had no means for the payment of interest except its capital stock. It was held that such payment of interest could not be enforced by action. Scott, J. said: “if all the stockholders are, by similar contracts or otherwise, entitled to be paid interest on stock paid in, we think it is clearly against public policy that the stock subscribed for the building of the road should be diverted from its proper purpose, and distributed among stockholders in payment of interest.” Every consideration of public policy which affected the case last cited applies with equal force to the case at bar. That promises by a corporation to pay to its members interest on their shares out of the capital are void, is abundantly established by authority. *Miller v. R. R. Co.*, 40 Penn. St., 237; *Richardson v. R. R. Co.*, 44 Vt. St., 613; *Cunningham v. same*, 78 Mass., 411; *Lockhart v. Van Alstyne*, 31 Mich., 76; *Cook’s Stock & Stockholders*, §277.

4. There is nothing in the record before us, (unless it be the fact of the prosecution of the case below,) to suggest that any member of this corporation desires or intends its dissolution. It is a going corporation. Its object is a worthy and benevolent one. We cannot conclude, after the construction which its members have for so many years given to their certificates, that they intended by them to provide for the summary destruction of the col-

lege, at the caprice of any member; a result which must inevitably follow the construction we are asked by the defendant in error to place upon them. Each certificate clearly evidences an equitable interest in the real estate of the college. It is idle to prosecute our inquiries concerning their meaning beyond the conclusion we have reached that they do not represent a matured promise to pay interest before the holders may, by dissolution of the corporation or otherwise, reduce to individual and separate ownership, their respective interests in such real estate.

JUDGMENT REVERSED.

I hereby certify that the above and foregoing is a full and true copy of the opinion of the Supreme Court of Ohio, in the case of the Ohio College of Dental Surgery v. Rosenthal, taken from the original in my possession,

GEO. B. OKEY, *Reporter.*

Our Aftermath.

DR. BLACK'S ARTICLES on the Periosteum and Peridental Membrane are to be reprinted in book form.

THINK FOR YOURSELF.—“The trouble with a great many of us is, we allow others to do our thinking for us.”

A SATIRICAL WRITER states that the physician's work fills six feet of ground, but the dentist's fills an acher.

THE HODGE HAND-PIECE, including the New York Dental Company, is now owned by The S. S. W. D. M. Co. Next!

A DENTAL WEEKLY.—After all our urging of American dentists to begin the publication of a weekly journal, Hamburg, Germany, gets there first with the *Zahnärztliches Wochenblatt*.

“EVERY MAN A DEBTOR to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto.”

“ENGLISH AS SHE IS TAUGHT.”—The salivary glands are used to salivate the body.

The growth of a tooth begins in the back of the mouth and extends to the stomach.—*The Century.*

TOO SCIENTIFIC.—*The Dental Review*, says its publishers, have received three letters from subscribers, asking that their names be stricken from the

subscription list of the *Review*, on account of its too scientific character. We are sorry to learn that there are three such men in our profession.

AN OFFICIAL DECISION REGARDING THE PRINTING OF THE TITLE "DOCTOR" on United States stamped envelopes, postals, etc., has recently been rendered. A physician of this city ordered one thousand stamped envelopes printed with the prefix "Dr." before his name. The New York Post Office refused to allow the prefix to be used, holding that it advertised his calling. On appeal to the Washington authorities the decision was overruled, and the doctor was allowed to have his envelopes printed as he desired. The decision is manifestly the just and correct one, and we are glad to place it upon record.—*Medical Record*.

SAD BUT TRUE.—There are thousands of men in this world who have a name only to live, but are dead—dead to the world and to all mankind, except it be to only a few who, through the busy din of life, happen to stumble upon them. They identify themselves with nothing; they plod the silent paths of darkness and obscurity, as if they had no object in life, no good to accomplish, no purpose in their being. They drop their bodies in the dust, and but few know of their death because they were not identified with the living and active, and their loss creates not even a ripple upon the placid surface of waters.—*Am. Med. Journal*.

KEEP INFORMED.—The best—indeed, almost the only—way in which a doctor can convince his patients that he is wise and knowing in his profession, is by showing them that he is a clever and well-informed man out of his profession. Of his science as a doctor they are not in a position to judge; but if he talks sensibly about subjects which they do understand—stocks and shares, and pictures, and last night's debate in Parliament, and has fair luck with his cases—then his patients will trust and swear by him. I remember one very sad illustration of the injury which a doctor does himself who drops behind in his general information.—*London Truth*.

A SPECIMEN OF FRENCH DENTISTRY.—Recently a lady called upon us to have two "pivoted" teeth reset. After careful examination we were unable to identify the teeth in question. Having sufficiently enjoyed our perplexity, she directed attention to the two upper lateral incisors, which proved to be human teeth which so exactly matched her own natural teeth as to excite our wonder at the chance, as we deemed it, by which the dentist had succeeded in so admirably meeting the requirements of the case. The operations were performed by Dr. Bing of Paris. The lady did not for a long time become aware that they were not manufactured teeth. One of them was considerably decayed on both approximal surfaces. We filled these cavities. A bicuspid was filled on its mesial surface with a plug of oak or hickory wood. This was spongy and "waterlogged," and was completely surrounded by a line of decay. It had been in place four years.

This sounds like an Oriental allegory, but it is strictly true.—*Cin. Med. & Dental Journal*.

THE INFLUENCE OF DRUGS UPON DIGESTION.—Dr. Klikovitch has been conducting a series of experiments to determine the influence of certain common remedies upon artificial digestion, and gives the following as the results obtained: 1. Alcohol. The addition of five per cent. has no influence upon peptonization; from five to ten per cent. retards the process, and more than ten per cent. stops it entirely. 2. Antipyrine produces no effect unless in very large doses. 3. Iodide and bromide of potassium slow digestion slightly in doses of from fifteen to thirty grains. 4. Organic iron salts do not influence the process, but reduced iron and the inorganic salts retard it somewhat. 5. Calomel and sodium arseniate have little effect; sodium salicylate and sulphate and magnesia retard digestion when given in large doses. 6. Chloral hydrate does not influence digestion in doses of less than fifteen grains, but in larger amounts it exercises a very decided retarding action. 7. Sodium chloride, in whatever dose given, has no effect, neither hastening nor retarding the digestive process.—*Deutsche Medicinal-Zeitung*.

THE "MEDSON" MAN IN OHIO.—We find in the *Medical Record*, for 1886, under the head of "*Progress of Medical Science*," this:

AN AUTOPSY EXTRAORDINARY.—The following report of an autopsy is by a physician, who is said to be doing a lucrative practice in Delta, O. It goes to show that success in gaining the confidence of the community is not necessarily conditioned on such an appreciation of anatomy, physiology, and pathology as the modern school holds to be correct. "E. C. C—, opened on September 25, 1885, for post-mortem examination. We find that sickness first started in the kidney No. 18, and from there to the hip bone, No. 15, from there to the spine No. 1, from that to the blood, cancer or abscess, blue cancer, etc. From large artery in the 6th rib affected and to the muscles of the hip, where started the ulcer on the left side, and thense to the urine, from thense to large intestine which was affected fifteen yards, and from their to a milky deposit in the bladder, and thense back again to the kidneys, from thense to the hair veins, from these to the back, and thense to the stomach, and thense to the bladder, and thense to a fever through all the system, No. 18, the liver's weight was 4 lbs., which was badly affected and mortified; from thense to the largest nerve which is connected with the brain which affected them. Weight of the kidney one half pound. The doctor's statement before opening the corpse was consumption of the liver and kidney."—*The Medical Age*.

And in another part of the same periodical the following:

WANTS TO STUDY MEDICINE.—Dr. J. B. Kell, of Delphos, O., writes: "Dr. S—, of our city, received the following letter, from a Reverend of Putnam Co., O., who desires to 'sudy medson.' I give it in full.

"'H—, Putnam Co. O.

"'DR. S—.

"'DEAR SIR: as I think of StuDing medson, and am Aqanted With you By rep and as you bore the name of A Criston I thout you Would be a good man to Sudy under and ASK you if thare Would Be Eney Chance to Have you fore councele I will fernish my oan books and Bord Ples ancer By retorn male and I will come up Yours in christ.

"'REV. R— P—."

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

AUGUST, 1887.

No. 8.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

REPORT OF A CASE, WITH ITEMS OF INTEREST.

BY DR. G. A. MILLS, NEW YORK.

MORE care is needed in society reports. It would be more creditable to all concerned to have no reports, (and more nearly just to those said to be reported,) than to have such as are sometimes seen.

Here is an example found in the report of the Northern New Jersey Society in the April number of the *Independent Practitioner*. It purports to be from the present writer in confirmation of the practice advocated in the excellent paper read at the meeting referred to. Let a blundering mistake be noted, as to a sentiment imputed to the writer: "In the case of there being a fistulous opening, we tap the alveolus." Comment is unnecessary to the intelligent. The charitable, and we profess to be such, would impute the mistake to an oversight; but how about the part not reported at all? We will leave it to the reader for just comment.

This case was just out of our hands the day of the meeting, and being so fresh, and in the line of thought, we naturally

inclined to note it, as instructive and complimentary to the author of the paper of the evening.

It is proposed to give it in full, independent of the report, and nearly in the words spoken at the meeting, thus: A lady, some fifty years of age, had had a large amalgam filling placed in a lower first molar. While eating that day she felt a sudden shock on contact of the occluding tooth, which had a gold filling in it. This was followed by tremulousness of the jaw which continued till the guests became anxious and rose to ascertain the cause, which they concluded was the contact of the two metals. A resort to a dentist and removal of the amalgam filling followed; and a gold filling was used instead. The cavity being large, much time and energy were consumed in the operation. Some ten days after, serious disturbance ensued, with severe neuralgic pains, lasting for days, and the ear on the same side developed an abscess. An aurist was consulted who scoffed at the idea of the tooth having any relation to the ear trouble. However, by advice of a physician, who is the patient's cousin, she sought my counsel. The ear was still discharging pus, but the pain had abated. Of course a pulpless tooth and a fistulous opening were found. An opening was made through the buccal portion of the tooth, and the debris was carefully washed out. This was adhesive and odorous. The cavity was then disinfected by permanganate of potash, and dried out with alcohol. (The rubber dam had been duly applied and gave perfect control). A mixture of equal parts of oil of cloves and creosote, with a little iodoform and chloroform added, was forced into the cavity. Chloroform is often valuable in diffusing medicaments by virtue of its vaporization, especially when there is no opening through the alveolus. After this the tooth was properly filled. Quite a portion of the alveolus was necrosed, which was carefully removed with a bur, and the surface beneath was dressed with aromatic sulphuric acid, full strength, mainly for the purpose of removing soft, sluggish tissue that was present. The tent, with the dressing, was left in place, and after its coming away the following day, the patient became anxious on account of the rapid infiltration of the soft parts; but by the following day this was gone, as well as the pain, and also the discharge from the ear.

And right here permit the record of a somewhat recent impression, that it is not so strange that physicians often fail to

be favorably impressed by dental services, for the reason that so much is done for "influence." I have spoken of this to Dr. Atkinson and others.

Not long since a prominent physician, editor of a leading medical journal brought his wife and son for examination and treatment. The doctor stated that they had been under the care of seven different dentists and they did not think their services were of the highest order. Appointments were made, and each patient kept two, but failed to keep the third. I never knew why they came, nor why they left me. I have had other experiences similar; and in one case two dentists acted as missionaries to my patient. The names are at my disposal, and they are members of an influential dental society.

ITEM 2.—Desirous to appear on record, in the line of advanced thought, the following is given from Vol. I, No. 1, p. 130 of the *New England Journal*, taken from a report of the Brooklyn Dental Society, February 13th, 1882. The subject under consideration was, "Sixth Year Molars." It will be seen that this fully accords with the paper of Dr. Davenport, of Paris, France, which was read before the New York Odontological Society, April 12th, 1887:

Dr. Mills said "that we are soon to discuss an aspect of a subject that had been but a little considered for want of a requisite knowledge, *i. e.*, the value of a tooth, or to put it in another way, the *disorder* and *disease* caused by the loss of a tooth. There is in this view of the subject vastly more that is worthy of our consideration, than we are now aware of. Lateral support means something, and the loss of this support has a very potent influence on the condition of tissues, physically. Too much relief may be secured. Taking this view of the matter we are reminded that all has not yet been made known to us that is to be known of this subject. When we know more of the building of tissues we will discuss these questions understandingly and with profit."

Remarks made upon the paper of Dr. Davenport, by Drs. Heitzman and Atkinson also accord with our views.

"VACUUM" PLATES.

BY W. E. SWIGERT, D.D.S., SPENCER, IND.

A LADY once told me, that the reason her mother couldn't control her upper plate was, because I hadn't made the "air chamber" in the right place, and it was the wrong shape. She had examined several mouths and found that Nature had provided a portion of the palate especially for an "air chamber"; had made it a peculiar shape, and I had failed to fit it. The blow staggered me. I was dumb with amazement, and found great beads of sweat "slowly and sadly" trickling down my *manly* face, and a ghastly smile o'ershadowed my ghost-like countenance. I could but realize and admire the great truth that a superior mind, in one short observation, had discovered what I had failed to in all the years I had practiced dentistry, and I exclaimed, "Success to thy genius, Oh Woman!"

But seriously, is the vacuum really a good thing? Rather is it not a myth and delusion? Aye more, in some cases it is an absolute injury. I cannot account for the persistent use of the vacuum plate by so many dentists, on any other ground than that of ignorance, or rather, want of disposition to investigate.

The per cent. of dentists who follow in the old rut of their preceptors, who make dentistry a mere trade, to be worked at, only for the money, who care not for the best methods, but are willing to accept the first given as good enough without further investigation, is surprisingly large.

Take, for example, the air chamber. How many of our "shining lights" still persist in using it in all artificial dentures? And what per cent. of them can give an intelligent reason for so doing?

I believe the principal upon which an exhaustion plate is made *will condemn the vacuum*. What is necessary to secure the most perfect adhesion to the mouth? I reply, *perfect adaptation*. By this I do not mean to merely take a good impression, with the parts in their natural position, and make the plate fit the model taken from this. Far from it. In the majority of cases such a plate will not fit, because there is not perfect adaptation. Per-

fect adaptation is when a plate is in place in the mouth and the air exhausted, there will be an equal pressure over the entire surface, thereby producing a perfect adhesion. Hence in the majority of mouths, there will not be a perfect fit, because the pressure will not be distributed equally, for the reason that in all mouths will be found inequality of texture, and the plate will press harder on the more solid tissues than on the softer. By examining a few mouths, any one can easily satisfy himself of this fact. Examine the palate of a mouth, posterior to the plate, and what is found true there will be found true of other parts where there is an inequality of tissues. I have seen plates, because of the unequal pressure, that would almost bruise the harder parts, while they barely touched the softer. Not because of a bad model, but for the reason given above.

How to equalize this pressure and secure perfect adaptation is the important question here. I would suggest that we study well the mouth, going over it again and again, using pressure to find what parts are soft. Note in what direction the soft tissues should be pressed, to be left in as easy and natural a position as is possible to have an equalized pressure and adhesion. Determine the extent to which they should be forced. Keep in mind the fact that too much pressure on the soft parts will cause correspondingly less on the harder, thereby making as imperfect a fit as the reverse. Take the model, which should be a perfect counterpart of the mouth, with all tissues in a perfectly natural position, and note on it all the inequalities. Study the model and mouth together, until as familiar with the model as though looking at the mouth. For an accurate fit will now depend upon the work done on the model. With a suitable scraper pare off the model where the tissues are soft in the mouth until satisfied that adhesion will be as strong as on the harder parts, remembering the direction in which the tissues, in the mouth, should be pressed, and retaining as near as possible the natural shape of the model.

To obtain a perfect result, will not only require good judgment, but a good stock of patience, perseverance, and practice. Every failure will be only the forerunner of a victory. Do not expect to become perfect in a few trials, or disappointment will be the result; for, to obtain a perfectly equal pressure and adhesion, I believe is only a thing of theory and probably impossible to gain, but strive to reach it and the result will be a surprise.

If perfect adaptation is necessary, I do not think it is obtained with a vacuum. An equal pressure and adhesion over the entire surface of the plate, can be obtained only by equalizing the firmness or solidity of the tissues. Is this done with a vacuum? No. A plate with a vacuum will pull the soft parts down to the chamber, drawing them from under the plate, where it is made to fit, thereby changing, to a certain extent, the shape of the mouth from the shape of the plate. And how often do we see, in cases of this kind, a distorted, inflamed, and honeycombed or papulous condition of this portion of the mouth?

This subject is not new; but it is not hacknied and is in order till common sense shall govern us in the adaptation of plates.—ED. JOURNAL.

INDIANA STATE DENTAL SOCIETY.

LAKE MAXINKUCKEE, JUNE 28, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S., Toledo, Ohio.]

THE MANAGEMENT OF DECIDUOUS TEETH.

DR. J. E. CRAVENS read a paper of which the following is a verbatim report:

This is one of the gravest problems the dentist is called upon to solve, and there is, perhaps, less chronicled information upon this than upon any other special division of dental practice. It is not to be expected that this whole subject shall be embraced in a single paper, but certain points about which the least has been written, will be presented for your consideration. As a rule, children under three years of age are not brought to the dentist, therefore, his ministrations begin, usually, with completely erupted sets of deciduous teeth. The family physician is presumed to exercise supreme supervision of the difficulties of primary dentition in all subjects under the age of three, only occasionally condescending to call the dentist into consultation, as a source of much needed information. Whether or not the desired information is thus obtained, depends upon the dentist's opportunities for observation and his habit of improving or neglecting opportunities. In any event the practitioner falls far short of what is

rightfully expected of him by his profession, and of what is due the little patients, whether expected or not, when he (the dentist) fails to comprehend the importance of retaining the deciduous teeth, of teaching parents to properly appreciate them. This instruction of parents is a labor of love, and the limited number of dentists who engage in it, often find it unprofitable, thankless, and discouraging. There are several reasons why the deciduous teeth should be retained till their successors are ready to erupt, and why they should receive thoughtful and skillful attention at the hands of the dentist. The deciduous teeth are always regular in arrangement, showing them to be in no wise accidental. Truly they are frequently tardy, but so are other organs. They never fail to come.

Let us consider the wisdom of the order of deciduous dentition, from a chronological view. These teeth erupt in groups, and the presence of the several groups furnishes an index, more or less accurate, by which may be determined the approximate age of the individual, the stage of development of certain hidden organs, particularly the stomach, and indicates fairly the character of food demanded for the further development of the individual. The index thus provided is lucid enough to be consulted with profit by any intelligent, observing dentist, or even by physicians. But the physician derives no benefit from this deciduous dental index, because "he ain't built that way"; and that is why he occasionally calls the dentist in consultation. In adult subjects, the masseters are the strongest pair of muscles in the body, being capable of maintaining the suspended weight of the body, and often more, but in childhood the masseters do not possess this proportionate strength, so that often the mastication of solid or fibrous food would be, for the young subject, extremely difficult if not impossible, were it not for the fact that these teeth bear peculiarly sharp cusps for the quick and easy mastication of substances that otherwise would necessarily be bolted whole and unsalivated into the stomach. This facility of deciduous teeth for chopping the food meets the demand of stomachs of very limited digestive capability. In this respect the deciduous teeth that have been freshly erupted present some analogy to the third stage of mechanical abrasion, common to the advanced age of the human subject that has been characterized as second childhood and in which the sharp edges of the abraded teeth enable the

aged individual to comminute his food. Every parent has probably noticed the sharp spines that surmount the cutting edges of baby's new incisors. The spines possess wonderful penetrating power, but as the individual grows stronger, power comes to the masseters, and the spines are soon worn away, leaving a plain incisive edge that is better adapted to the habits of the developing individual. The adult teeth are from a third to a half larger than the deciduous ones, and are fifty per cent. more numerous, requiring about double the capacity of alveolar arch, which the child's jaw must grow to accommodate. This additional development of the alveolar arch is usually accomplished in six years, beginning at about the sixth year. Yet, how often do we find the inferior adult centrals at six years, coming through the gum behind the deciduous incisors, and obstructing the movements of the tongue? And a little later, six months perhaps, the inferior laterals struggle through, so far back and so hedged and handicapped for space and position as to appear to be hopelessly shut out of the arch forever. Right here is where mistakes are so often made by dentists, by prematurely extracting deciduous incisors. So long as deciduous teeth remain, and in a healthy condition the arch may be expected to expand, at least until the requisite space for the accommodation of the adult teeth has been obtained. The deciduous crowns and roots seem to serve as levers and wedges, by which the jaw is induced to expand at the desired points. The tongue, possibly, is an active factor in rendering the leverage effective. Another reason for retaining the deciduous teeth as long as space is needed, is that the resorption of their roots is attended by a mild form of local inflammation and increased vascularity, resulting in hypernutrition of the jaw, and consequent enlargement of the alveolar arch, for the accommodation of adult teeth. When it is possible to do so, all cavities in deciduous teeth should be filled, otherwise they may become so extensively decayed as to necessitate extraction. Pulpless deciduous teeth should be retained if possible under conditions that may not prevent resorption of their roots, to the end that they may perform the secondary function of assisting in inducing enlargement of the alveolar arch. The deciduous molars should be retained for good mechanical reasons. They prevent a forward tipping of the sixth year molars, particularly of the lower ones, thus preserving proper space for their immediate successors, the bicus-

pids. Also they are necessary to preserve continuous articular surfaces for the effective mastication of food. Good masticating ability is quite as essential for the child as for the adult.

DISCUSSION.

DR. W. B. KNAPP: The paper is full of good meat, and is well worthy of our consideration. I have been educated in this subject, and, as the doctor said, it is almost a labor of love; for it is not one profit. Very few parents pay attention to the teeth of their children until they ache. I feel like adding testimony to the good results of experience to keep these teeth as long as we can, and as the financial results are not all we work for, it is well worth our attention. Parents often remark that their children's first teeth came in as regular as could be, and ask why the second teeth should have been so crooked? It is a rule that the temporary teeth erupt regularly. Why the permanent teeth were crooked was because the temporary teeth were neglected. The subject of irregular dentition being an index, is one that has been largely neglected. We should go farther. If we are ever going to do anything with dentition it must be with the temporary teeth. We can make but little change with the permanent, but can, even by a particular diet, make a difference in the temporary. The point of retention of the temporary teeth is one I feel like emphasizing. If the tooth becomes dead and the gum absorbed, if it can possibly be put in a healthy condition, it should be saved. Some say that even roots should be retained, but I doubt if the retention of roots has as much benefit as is supposed. I think there is such a thing as overdoing it. It is many times difficult to treat these teeth, yet if they are attended to, much can often be done with temporary stoppings. This whole subject should receive much attention from the general practitioner. This matter is largely neglected by both dentist, and through ignorance of the parent, the dentist often thinking he will not receive even a thank you for such advice as he may give.

DR. W. H. STEPHENSON: I have made a specialty of urging patients to have the teeth saved; and I find that the older patients have much respect for me, and they come to me with all diseases of the mouth, and do not go to a physician at all. I have had good results with filling children's teeth, and we cannot do too much in this line. About extracting, I always make a

thorough examination first, and extract only where the teeth and roots are abscessed and cannot be saved. It is better to have such teeth out of the mouth. Always avoid unnecessary hurting of the patient.

DR. WEISER: I have been engaged in both medicine and dentistry for over thirty years. Perhaps by being engaged in both, I have paid more attention to the deciduous teeth than I otherwise might have done. The deciduous teeth, instead of enlarging the arch, only hold the tissues in place, and the erupting permanent teeth enlarge it. The difficulty experienced in extracting the teeth too early is that it forms a contraction of the alveolar ridge. When the tooth comes forward through the bony septum, it pushes itself through out of position. When they come through thus the jaw is not enlarged, the face is distorted, and a single tooth may, in this way, disarrange a whole arch, when otherwise the teeth would have come in in their proper position. I think the permanent come forward as the temporary are absorbed. The teeth should be filled, and we should try to save all we can. Of course it is a matter of love, as the gentleman says, but we must do it.

DR. WENDELL: I have been engaged in both professions myself, and my experience has been like this other gentleman in some ways, and in others different. He failed to enumerate one important point in the eruption or perforation of the upper incisors, and where they protrude. In such cases they should not be removed, for in some instances I have seen no second teeth appear, and the children have had to go without. Again some children's teeth are decayed as soon as erupted, and they soon become denuded, and will not come out. I have had to take the elevator and shove it down from above to get some of them; yet if these be left as they are they will hinder the growth of the secondary teeth. About the preservation and retention of teeth in the arch until the time of eruption of the permanent, I have my doubts as to the theory in regard to that. I do not see in what way they could maintain the prominence of the arch, to enlarge the gums and present a regularity or irregularity of the set of teeth. We know that as the secondary teeth advance, the temporary are absorbed, yet it is not known just how this is done. I think Nature makes preparation for these things. If it was otherwise, inflammation and pus might occur at the time of

the perforation, and this might cause destruction of at least a portion of the jaw. It is sometimes said that there is not room enough in the arch for the permanent teeth. Many persons never cut their third molars, and the question is what becomes of them. Perhaps Nature here provides for the removal.

DR. WILSON: There are two or three points that I would like to get light upon; first that the primary teeth are almost always regular. I have seen one or two exceptions. Second, that the permanent teeth are caused to be regular or irregular. I believe the child is destined to have such. I also believe that extracting the temporary teeth makes no difference in the second dentition, except where the cuspids or molars are taken out. You have seen cases where the central and lateral erupt and come in crowded. But you take out the cuspid and you do not correct the fault but cause, to a certain extent, a distortion of the face. I do not think the jaw is filled up so that the teeth come in irregularly. As I understand it if the tooth dies, the root stays in the same condition and is not absorbed. I believe they are a source of irritation, and should be extracted.

DR. WISSEL: About resorption. When the pulp becomes dead, the teeth are pushed out of their sockets, but when they are alive the roots are absorbed.

DR. GILBERT: I think this matter of attempting to save deciduous teeth is over-done. I believe in saving as many as I can, but when the operation is so painful to the child, I extract the teeth and stand the consequences. The teeth of the Germans and Irish are regular, but take a mixture, and the result is irregularity. Yet I do not believe one-half or one-fourth the harm occurs from extraction of these teeth as from the nasty food that is allowed to collect about them which is mixed with the pus and other things, and afterwards passes into the stomach and consequently causes blood poisoning.

DR. WENDEL: I did not mean that a dead tooth was necessarily an ulcerated tooth.

DR. KNAPP: The gentleman made the statement that where the teeth were dead, the old teeth were pushed out of position. I think they are more apt to push the new teeth out of position. I have seen cases where the new teeth came in between the roots of the deciduous and a little prong turned the course of the new tooth.

DR. WELLS: I think a mistake has been made. I object to the extraction of the lateral incisors. When the lowers and centrals are thrown off and the permanent come in, the patients often wish us to remove them. The doctor said it makes no difference about extracting. I think we should not extract, but exert pressure upon the lateral, in order to give expansion of the arch. It is bad practice to extract the lateral to make room for a central. There is one matter that has not been mentioned, the destruction of the germ of the permanent teeth. I have some specimens where the crowns of the bicuspid were most entirely destroyed.

DR. WENDELL: In regard to diet, I think when we find the deciduous teeth impaired we should recommend a liberal diet that has a great deal of phosphates in it. I have had my children eat as much as possible of this and found the results good.

DR. CRAVENS: Another point in regard to pulpless teeth. A tooth is not dead unless the pericementum has been destroyed or its function suspended. In regard to controlling development, the time to effect the development is prenatal, and to do this with the deciduous teeth requires pretty early treatment. The teeth at the time of their development are made perfect or imperfect, and they remain so. There is no case on record where, when the teeth have been once formed any food could change them, other than perhaps the general structure may be somewhat changed. Yet we find consumptives whose teeth are free from decay. I went into this study with much earnestness in 1872, and now I wish I could get back much that I said then, but it has been printed and I cannot. But, as far as this nutrition is concerned, I have no faith in the prospective improvement of the teeth, farther than a nourishment. Pulpless teeth may be absorbed under certain conditions. Nothing should be put into the pulp canal for medication. After the canal has been rendered dry it should be filled with something that is as near like the tooth itself as possible. I am getting back into my old hobby of advising phosphate of lime as a filling material for the roots. This material wet properly can be worked into the canal until it is full. It is hard to work but it can be done. The crown is filled with whatever the circumstances call for. Treated in this way I have not had a case go back on me in five years. I do not think every time I see a little sore on the gum that there is an abscess. You cannot have an abscess unless you have a cavity. I never extract-

ed a deciduous tooth the root of which was partially absorbed. It is a kind of dilating of the periosteum at the end of the deciduous tooth and no sack there as there is no room for it. Pulpless deciduous teeth may be resorbed if the canal is filled with as near a natural material as possible. In regard to the statement that the adult teeth get against the deciduous teeth and the latter are pushed out. It is not a question that they are absorbed, but how are they absorbed? that is the question. There is resorption of the papillary mass wherever we find it. The papillary mass overlies the new crown of the advancing tooth, and the crown could not get far if there was not an absorbent organ to absorb the process. This mass precedes the new crown, and absorbs anything that obstructs it. This absorbent organ also absorbs the process, as the permanent tooth is larger than the temporary. This absorbent organ has its origin in the inner layer of the sack; and this sack is lined with the papillary mass, and when pressed or impinged upon, irritation ensues, and we get the result; and also an increased vascularity of the new crown, and an exudation all around. The question is then raised why do we not get a destruction of the advancing tooth as well? There is no case on record where the enamel has been absorbed.

DR. WENDELL: Instead of resorption it is chemical decomposition and elimination, the same as exposed bone is thrown off. The root is never thrown off and appropriated, but is thrown off and eliminated.

(To be continued.)

NORTHERN OHIO DENTAL ASSOCIATION.

CLEVELAND, MAY 18, 1887.

[Reported for the JOURNAL by W. H. Whitslar, D. D. S., M. D., Youngstown, Ohio.]

(Continued from page 330.)

DR. HENRY BARNES of Cleveland, read a paper on

ARTIFICIAL SUBSTITUTES FOR NATURAL TEETH.

Necessity is truly the mother of invention, and man's need of teeth, to properly prepare the food for the nourishment of the body, has compelled him, even from the time of the Pharaohs, to substitute stones, ivory, natural teeth, wood, porcelain, gold and

other materials, in place of the natural organs lost, from decay, disease and other causes.

It is not my purpose to speak of the practice of the ancients, neither to advance anything new, but rather to direct attention to present practice and, if possible, call out a few of the strong points, and weak ones too, in the methods of filling teeth, the manufacture of artificial substitutes, whether of plate, crown or bridge work. At no time in the history of dentistry has there been so many and varied substitutes for natural teeth from which which to choose, as at the present, and one is at times quite undecided as to which particular method will prove the best for a particular case. Even after this is satisfactorily disposed of, in our own minds, there may come up the question of expense, and we are compelled to do that or nothing. Filling teeth is yet largely an experiment. We are constantly forced to change our methods. If you doubt this, read the transactions of our dental societies for the past fifteen or twenty years. The profession stands to-day almost as a unit, in favor of tin and gold, in combination, in the same cavity, doing away very largely with the drill pits almost universally resorted to when gold alone was used. Tin, which has been looked upon as so difficult to manipulate, is being used by many dentists and, let us hope, will become universal. Amalgam, speak it low, is also used, in combination with gold, and, with other methods, when judiciously used, is made to work out the salvation of teeth.

We cannot from any one case prove anything, but proof of the durability of any method, comes from the aggregate of success and failure. Let us, with the materials we have, perform our very best work, not expecting more than experience will warrant, and supplemented by our right hand assistant, (our patient,) expect a reasonable success.

In the matter of selecting teeth for artificial work, we are not permitted to choose, but must take the stereotyped forms, sizes and shades, furnished by the manufacturer. The most natural tooth in appearance is the one recently supplied by the White Mfg. Co., called the counter-sunk pin tooth, but it lacks strength and is forever breaking from its support on the plate. Dr. Haskell of Chicago, in a paper read before the American Dental Association, at Niagara, says: "Fifteen years ago, or more, from a small stock of gum plate teeth, contained in their drawers, I

could select, in fifteen minutes, a perfect match for partial sets, and yet to-day, from a much larger stock, in the same establishment, I cannot begin to find what I need, nor can I elsewhere," and attributes this to the attempt to secure a "strength which is uncalled for." It is certainly true that while the molds have multiplied, the shades are anything but natural. Ash's teeth are often preferred to those made in this country, for the reason that a polish can be secured even after grinding, but they will not stand fire for gold plates or bridge work. Who is the Jonah? the dentist or the manufacturer?

Much has been said and written against rubber as a base, and yet is, and will continue to be, unless a cheap and better base is found, the plate worn by the great mass of those who are compelled to resort to artificial teeth. While not desiring to take your time in rehearsing the old theories *pro* and *con*, I do say rubber is the victim of some abuses; one of these is the deep suction or air chambers, which cannot be defended by any show of reason. There are other and better means of accomplishing the same result, as by trimming the impression and model, or using the tin "surface cohesive forms," invented by Dr. Spyer. These have an additional advantage in that they leave the plate smooth and polished, thereby aiding in its thorough cleansing. Again, plates are made too thick, so that the wearer has much of the mouth room occupied by plate, when if about one-half of it were removed, he might enjoy comparative comfort. From observation, I am fully persuaded that many of the sore mouths and inflamed mucous membranes are due to filthy plates. We can not too strongly urge upon our patients the healthfulness of perfect cleanliness.

Celluloid was born during the reign of Josiah Bacon, with "great expectations," which as yet are unrealized! Dr. Evans in the "American System of Dentistry," stoutly defends it, but the truth is, it is not used by one dentist to-day, where ten years ago it was used by fifty. A material which is so uncertain in its results, the fault of the dentist it may be, will be discarded as practically worthless by a majority of dentists. Such is celluloid.

Perhaps the most filthy plate is the gold with the teeth soldered on—a perfect cess pool, which has odors, but not sweet ones. Of late years it is customary to attach the teeth to the plate by the use of rubber, which, with plain teeth, make it pos-

sible to produce a very artistic and useful, as well as clean denture. The same objections to a deep suction may be urged, as in the case of rubber. It is well to use a little thicker gold. Even gold in the mouth will produce inflammation if not kept scrupulously clean. Continuous gum on platina permits of a natural appearance and artistic finish, which is possible in no other base, besides being the most cleanly, but the expense and mechanical ingenuity required in construction prevent its general use. Dr. Land, of Detroit, deserves great credit for his efforts in this direction, and his porcelain fronts, for crowns, will bear careful investigation. There are other bases more or less used, such as the Watt metal, good in lower dentures when weight is necessary, the Reese metal, and aluminum. Many of the older members of the profession have tried the various bases of the past and are possessed of a stock of experience which many of the younger of us are not disposed to profit by.

In crown work we have a number of methods to choose from, and while no one method possesses all the good points, still there are some more desirable than others, because of their greater strength, and consequently remain in and do good service for the patient. In selecting a crown there is this danger to be feared, that we may lose sight of some which possess real merit, and pin our faith and practice to another of little practical value, and comparatively worthless. I believe first on the list is the Richmond crown, (so called,) which may be made of all metal for the posterior teeth and with porcelain fronts for the anterior teeth. It can be used in all cases where any crown can be used, and in truth where the pulps are alive as well as in those that are dead. The failures with this crown are more frequently due to the fault of the dentist than to the crown itself.

. Notwithstanding Dr. Atkinson has declared that the pericementum will bear abuse, we had better go slow in this direction and not force crowns too far under the free margin of the gum. A perfect crown should fit the root perfectly. The root must be trimmed so that the space, which is so often present, between the cervix and the ferule, a hiding place for filth and the forerunner of decay, will not be present. Another fault is that crowns are made too thick at the point fitting the root; when if made very thin any little inequality may be thoroughly burnished into place. If made thick they are apt to be a source of irritation to the

gum. Crowns of this pattern are easily made by using pure gold (Dr. Knapp's method) and capped with gold and platina filings. The pure gold is soft and pliable and permits of a better adaptation to the root, while the gold and platina is hard and will better resist the action of mastication, than where gold alone is used. The color is even better than gold and is not quite so noticeable. The size and contour of crowns is best secured by the Melotte method. Where a pin is called for, nothing but a platina or a gold screw should be used. A post made by the S. S. White Dental Mfg. Co., called the "bright metal" post, [the How screw-post called the "crown metal" post does not oxidize nor change color. ED.] if used with the cements will oxidize and disintegrate the cement, causing the crown to loosen and turn the root a green color. A few such cases have occurred to me, and when removed I found the pin almost eaten through in about eighteen months time. Added to the Richmond crown we have the How, Logan, Foster, Weston, Bonwill and others, possessing more or less merit. Perhaps the best practice is to combine two or more of the different methods, for each has excellencies not possessed by others.

Bridge work is sweeping into the profession with lightning speed, and the next few years will see many noble successes, and many lamentable failures. It behooves us, as sensible men, to stand as a unit against its unwarranted use.

First seized upon by a class of men of mercenary spirit, it was inserted in every case where there remained a few old stumps, provided the patient was willing to pay for the experiment. The reputable practitioner is a gainer in this one direction, that they caused the idea to spread, by the liberal use of printer's ink, and thus brought to many, who would otherwise never have heard of it, the knowledge that teeth could be inserted without a plate.

The various methods are so well illustrated and described in the work "The American System of Dentistry," that I will not attempt a description other than to say, that the work of Dr. Rollo Knapp, of New Orleans, lately illustrated and described in the *Dental Cosmos*, seems to me the most perfect of its kind. Dr. Knapp has taken nature as his guide, and his foundation being solid, he produces results which are truly surprising. Every step of his work is performed with the greatest care and no pains are spared to obtain the best possible result. With his oxyhydrogen

blow-pipe, he will melt platina in seventeen seconds. I believe those who saw his models at Niagara, will unite in giving him first place as a bridge worker.

The practice of allowing the teeth to impinge on the gums will produce a fungus growth, especially at the point joining the pivot crown. It is much better to allow a little space, and also to make the attachments as near the coronal surface as possible, not of course, sacrificing strength. A bridge made of all metal is preferable, to porcelain crowns especially, in the posterior teeth because of their greater strength and being less liable to accident. The question for the future to decide is, which form of bridge is best, the stationary or movable? Another is, how to insert a bridge, so that the crowns will perfectly fit the cervix in a case in which the space is wider at the cervix than at the coronal surface? I hope in the discussion to have the points fully considered. I believe plate and bridge cases should be relegated to some one specially trained in this class of work, in whom we have perfect confidence. To fill teeth the hands should be in first class condition, so that we may work without having them stiffened with plaster and general laboratory work. The special class of bridge workers of to-day are not prepared by education to follow nature and produce her likeness in the mouth. Something more than good jewelry is required. To do this work properly one must always keep in mind the good of the patient. Spartan courage is required, and if our pockets are not lined with gold, we shall have the satisfaction of knowing that we have done right.

A "Younger" method has lately appeared. Don't throw away your old teeth, for we have information from California, that they will sprout and grow again.

There are not a few cases on record where teeth have remained in after they have been removed and reinserted, but the history of replanting is too fresh, as yet, to permit us to rush headlong into this last and latest craze.

DR. J. W. LYDER: I am not a bridge worker, but I feel that there is something in it. We must do something or we will get swamped. Some think it is to be the thing, others think it is to be destructive. It is a duty we owe to the profession and to our patients to know just what is right.

DR. LEWIS BUFFETT: The subject of mechanical dentistry is

a broad one. My experience with bridge work is limited. There is no question in certain cases it is the best way to supply missing teeth, and in others the meanest. It is not a new process. Twenty-nine years ago I saw a case similar to the bridge-work of to-day, except that the roots were filled with a plug and the pins passed into the plug. It was stationary and was made in England. There are general principles that underlie the application of such pieces; first, remaining teeth should be sufficiently firm. It is a plate and it is a misnomer to say that teeth inserted this way are those without a plate. If it can be adapted so as to exclude moisture, and the number of teeth to be supplied not too many, then it is the best thing, especially for public speakers. Attached to teeth that give rise to neuralgic troubles, or are irritated easily, neuralgias arise when often it is really difficult to tell that such come from such appliances. If a number of roots are loose, apply a band, although it is breaking over Nature's laws not to allow every tooth to have its natural spring in its socket; by holding firm we can get a deposition of bone around the teeth and it tightens them. Do to your patients as you would be done by, and let the dollars go to purgatory. Some will succeed in some cases better than others. Where there is a predisposition to exfoliate roots, bridge work is of no use. To condemn bridge work in all cases is certainly wrong. The manipulation belongs to the mechanical dentist and jeweler. Movable bridgework is only an adaptation of clasps like. It used to be condemned to clasp a plate to teeth, but we come back to the old time way of thirty-five years ago.

DR. F. S. WHITSLAR said that he remembered that we used to use clasps and that some quit using them because they were shown to be injurious. He had not become a fanatic upon the subject of bridge work and in ten years many will not be so fanatical as now. The indiscriminate use of this work will give sad results, cutting into sound teeth, as for instance, when the incisors are lost, and bars are attached to the cuspids, which when broken away, injury is not only done to the patient but to the profession. Have seen cases twenty-five years ago that were made in Germany and England.

DR. CORYDON PALMER, when asked to give his opinion of bridge work said: You have got me on something I wish I had never heard of. Our journals say nothing else but bridge work.

Have seen Knapp's work and conclude it is a bad practice. Have seen bridge work drag out teeth. Am opposed to it. To grind down teeth for fitting a band on a stump I am opposed to. For the most part the practice seems to be to cut off teeth and leave pulp exposed, which is destroyed by driving up a hickory peg to destroy it and then leaving a hickory peg for a filling; drill out part of this and put in pins. He knew a gentleman in New York who went to Germany in the interest of a bridge work company, but not making a success there, he returned to New York. That man cut off sound teeth of his wife's and made bridges, and he took me up to see the work and said that he was going to cut off more and supply their places with a bridge. From all my observation I conclude that that which depends upon the natural teeth for support must fail. It is only a matter of time. This practice is doing more harm than any other thing that was ever advanced in our profession. It is a *filthy, miserable, dirty* practice. Sheffield gained his case, and those practicing this are liable to pay a royalty. A lady patient of mine went to Cleveland and had a piece of work done, but it was a complete failure.

DR. CARROL said that: Aluminum had interested him for thirty years. He had experimented a great deal, and, with commercial aluminum, which contains from ten to fifteen per cent. of iron and other impurities, he always had failures. By his process he adds three per cent. of "royal" metals to the pure aluminum and making this addition brings pure aluminum, which shrinks one-twelfth of an inch in cooling to that point where there is no contraction or expansion. He said there was an electrical action of the molecules, and he had seen the molecules, under the microscope, turn around and adjust themselves positive to negative. Has made over five thousand experiments with aluminum since '62. I am the only person that can solder aluminum.

DR. J. E. ROBINSON said that he had not done much work of any kind in prosthetic dentistry, but he did not see any incompatibility between the two branches, operative and mechanical. It is best to have plate work to do at odd times to rest the eyes from the heavy strain upon them during operating.

DR. J. STEPHAN said that in some cases bridge work is just the thing, and would save a great deal of annoyance when plates were worn which rub and irritate the gums.

DR. S. B. DEWEY said his knowledge of bridge work was

limited, but that in young and middle aged people, he had concluded it was an improper method.

DR. F. S. WHITSLAR urged against the indiscriminate use of bridge work, and said that the future good for the patient was the prime factor. For artificial dentures he preferred continuous gum, gold, or porcelain.

DR. J. E. ROBINSON said there was much injury done by close fitting plates. A plate that is swaged never fits absolutely. Rubber plates usually fit too close.

DR. NEWTON said that where rubber plates fit too close at first they become loose after a time.

MINERAL WOOL SUBSTITUTE FOR ASBESTOS.

Among the most interesting things presented to the society was *mineral wool* by Dr. H. F. Harvey, of Cleveland. It is such as is used for packing in steam pipes and he uses it in place of asbestos in mixing with plaster of Paris, making a very tough and desirable combination, which is better than asbestos with plaster, sufficient water is used to saturate the wool which retains enough water to mix the plaster. This mineral wool is made from the slag from iron furnaces. The finest grades are the best.

DR. CARROL, of Meadville, Pa., demonstrated, producing a practical piece, his method of casting aluminum plates.

ILLINOIS STATE DENTAL SOCIETY.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S.]

(Continued from page 322.)

DR. T. W. BROPHY: I doubt Dr. S.'s remark about forcing a ligature to the process. It is often used too much. At the cervical border below the gum I think all things unnecessary for finishing if the gold or material has been properly used. These disks are excellent appliances in proper places, but I have never found anything that compares favorably with Dr. Parmelee Brown's silver strips. By the use of corundum flour, mixed with glycerine, you can get the finest kind of a polish on the filling and cut it close to the border. Being thin you can pass them between any teeth where floss silk would go. I am somewhat opposed to saying anything about the matrix as I have invented one, but when a man who never used one gets up and condemns

them all, I can but resent it. In filling where I use the matrix I fill the first third of the cavity with tin and gold, letting the ends project between the cervical border and matrix, then use non-cohesive foil finishing with cohesive. The idea of taking a piece of file for a matrix as Dr. Stevens proposed. How can you get good borders in that way? You must have a material that is yielding to get good results. I agree with Dr. Harlan that indiscriminate use of the matrix is objectionable. In separating teeth start them by some slow process. Linen thread is not a good material to use. We must use good judgment in these things.

DR. BLACK: I am afraid of the rapid separators. There is one thing I want to warn you all about and that is getting too round a formation to the cavity so that the gold when introduced will slip. It is absolutely necessary to shape the cavity so that the gold cannot slip. About contouring proximal surfaces. In many cases of decayed molars we have a V-shaped opening, and when left just as it is, the teeth will come together and push one into another, so this space and enough more will have to be gained before contouring. If a matrix is used at all it should be a metal band tightened by means of a screw.

DR. GREENE advocated Dr. Call's matrix.

DR. W. W. ALLPORT: In regard to the matrix I am not in favor of its general use. Think it is a good way to aid some in filling, but I want the cavity so that I can see into it and so that the instrument may reach every part of it with nothing to hinder. If the teeth were perpendicular a band matrix would be the best, but where they are bulged as a general thing you can only make a common-place operation at that point. In using a wedge between the teeth where proximal cavities exist near the gum, I bur out that portion of the wood next to the cervical border of the cavity and let it answer as a matrix for filling. The cervical wall is the place that needs the greatest attention. I am not afraid of using large pieces of gold. I make countersunk retainers with a square excavator and bur and polish with pumice. I then put the gold down to place without being afraid of breaking the tooth. Look out for the frail edges and leave none. Use non-cohesive gold. The so-called retaining pits are not rightly named for they are only starting points.

DR. NOYES: I buy ruffling and use it for a polishing strip, it being thinner than the common tape we use.

PRACTICAL THERAPEUTICS—DISCUSSION OF DR. HARLAN'S PAPER.

DR. FREEMAN: The paper is well worth attention. Perhaps we do not follow out the advice as we should for we certainly do not all get these stated good results from different medicines especially peroxide of hydrogen.

DR. GARDINER: The gentleman says that all do not get good results and I do not wonder at it. They buy in small quantities and it soon spoils. The peroxide prepared by Marsh, of New York, seems to be the most stable compound of any I have tried. A new preparation called glycozone, composed of glycerine and ozone, is effective in diseases of the antrum, diseased tooth pulps and fistulous openings, and is lasting, the effect being of six hours duration.

DR. REID: I would like to hear from some of the persons who have had failures with peroxide and know how they used it. I have seen persons using it in cases of blind abscess without applying the rubber dam. If they attempt it in this way they may depend on failures every time.

DR. HARLAN: Peroxide of hydrogen is useful in diseases of the antrum of Highmore. Dr. Ingersoll said that iodol was an irritant, but it is not. It contains more iodine than iodoform and is a stimulant without being an irritant. The air is bracing and is a stimulant but not an irritant. Cold is the same and so is heat, etc. Glycozone or cozonie-ether are both valuable where the disinfecting property of peroxide is needed, and also the property of glycerine. For cleansing the mouth, if there be tumified gums or irritation of any kind. When hydrochlorate of cocaine first came out, it was reported not to be toxic, but since that time it has been ascertained that some people are susceptible to its influence, and doses, except in certain cases, should not be more than one grain. By its action on the mucous membrane cocaine produces anæmia and paralysis of the motor and sensory nerves at their peripheries. It produces numbness and in some cases paralysis that cannot be accounted for. The greatest care should be exercised in keeping instruments clean, to avoid infection, and especially so before they are introduced into a pulpless tooth for the first time.

DR. BLACK: I apply the rubber dam in all cases and it is especially needed where a foul pulp chamber is opened. If after

these precautions we disinfect thoroughly and close the cavity we may feel certain of no bad results, for pus will not be formed unless microbes be present.

OPERATIVE DENTISTRY AS APPLIED TO DECIDUOUS TEETH.

DR. W. N. MORRISON of St. Louis read a short paper. Among other things he said text books were meager in their treating upon these operations. The journals were more advanced but the profession was far ahead of both. Never before did the deciduous teeth receive so much care as to-day. In 1857 at St. Louis, a society member said that if it were possible to excise the teeth and process from the jaws, no material bad effects would be seen after the eruption of the permanent teeth. It should now be our aim to save all crowns in their proper shape and positions and keep them from decay. Where they do decay, if the cavities will permit it, use gold, but do not mallet much. Amalgam can be used for simple cavities, and for large cavities in these teeth it has no superior. Do not extract or cut heroically. I do not go too close to the pulp, but leave some of the soft tissue over it. Where the pulp is exposed I cap with gutta percha. Where the pulp is dead I remove all the dead tissue possible and disinfect with wood creosote, then fill the roots with chlora-percha and the crown with amalgam. Gutta-percha swells and the phosphates wash away, so neither is good for a permanent filling. I wedge the teeth with cotton for a few days, where proximal fillings are to be inserted. In case the cavities are of such shape that they will not retain a filling, I bridge from one to the other, which in addition gives a good masticating surface. We should strive to educate the parents as well as the children, and then they cannot say of a decayed permanent first molar, "I thought it was a baby tooth." Teach patients how to oxygenate the blood with out of door air and the importance of using pure water for drinking purposes. Water if boiled will be freed from microbes of all kinds. Sulphur should be used as a dentrifice to destroy any microbes that might remain.

DR. K. B. DAVIS: This subject is an important one, and I fear it does not receive deserved attention. We should study it more and not cast it aside for more pleasant duties. The neglect of parents in this matter is because they don't know about the temporary teeth and the eruption of the permanent. They almost

invariably want an aching first molar extracted, but of course this should not be done. In regard to filling I would not use gold, but amalgam and tin are both good. It frequently happens in the eruption of the permanent teeth, where the temporary teeth had been small and narrow, that they come in irregularly.

DR. BROPHY: The greatest objection to the removal of the temporary teeth, is that it leads to the too early eruption of the permanent teeth. I have taken impressions of a great many mouths. I have many that show the deciduous teeth in place and some that do not. If the permanent teeth are erupted too early they are not strong enough to withstand decay, and then we have irregularity,—the molars generally leaning over so they prevent the eruption of the bicuspid. The management of pulpless teeth is a study in itself.

DR. GARRETT NEWKIRK: There is nothing of more importance than the theory and practice, with special reference to the teeth of children. If we make a serious mistake, the consequences will be life long, although the child may not be more than five years old. All the temporary teeth should be preserved. It is nature's plan that each tooth be retained in place until it is time for another to displace it. As we are all probably aware there are many reasons why these teeth should be preserved. I do not like the idea of bridging with amalgam from one tooth to another, for there is a natural motion of each tooth independent of the other teeth, so the filling must of necessity break away or something of the kind.

DR. NOYES: I think Dr. Morrison is all right in his statement, especially in bridging molars, for the pulp is large and sometimes you cannot get retaining form enough for a single filling and a bridge can be made to control both.

DR. GREEN: It is an important thing in dealing with children, to get their confidence and then you can do anything with them. In some cases when the child comes for the first time, I only plaster in some cement, not caring whether it does any good or not, just to gain the child's confidence, and the next time make the filling permanent.

DR. LOUIS OTTOFY: I believe in the general use of amalgam, but not in bridging. The difficulty I see is that the different teeth are shed at different times and trouble must result. I do not use gold for these cases. We can put in good cement fillings by keeping the cavity dry.

DR. KESTER: I use tin and gold combined as a filling material for these teeth and especially for the molars.

DR. REID: I am surprised that any one should advise the use of a bridge of amalgam. It will be but a short time before one or the other of the teeth will fail. This is sure and does not take long, on account of the unequal motion of the teeth.

DR. BLACK: I have heard the statement that the permanent teeth were erupted earlier by the premature eruption of the temporary. Now they may be either advanced or retarded. In the eruption of the temporary we find the enamel completed before the growth of the root. If we examine early, we find the cement deposited on the root and over the enamel. So in prematurely erupted teeth we do not have as good enamel. We occasionally find teeth erupted with dark or light enamel, exceedingly soft. He here cited an instance of examining a lamb's temporary tooth. The organ of the erupting permanent tooth looked as though it was touching the other tooth, but a minute examination disclosed blood vessels and other tissues between. In premature removal of the teeth we are more likely to get a contraction of the arch. The position of the permanent teeth before the temporary are shed, is very irregular; sometimes these teeth lie together and in this position they cannot expand the arch. Therefore, sometimes the arch is enlarged and at other times it is not.

DR. DAVIS said it seems as though it would require more retaining form to bridge from one tooth to another than to hold a single filling. I think it is best to have the child come alone. Be gentle yet firm with them and get their confidence. Do not deceive them and say it won't hurt when you know it will.

DR. NEWKIRK: If teeth are bridged, say two molars, one of which is to be shed this and the other next year; how can they be removed? It seems to me to be a ridiculous idea.

DR. BLACK: The bridging with gutta-percha and cements is not as bad as amalgam, for they will give to a certain extent.

(To be continued.)

Correspondence.

"I charge you that this epistle be read."

TARNISHED GOLD FILLINGS.

EDITORS OHIO JOURNAL OF DENTAL SCIENCE.—A patient returned to know why her gold fillings had turned black. To my astonishment upon examination—not tarnished, but as black as an old brass kettle. Can you account for this? If so, please do so through the JOURNAL, it may assist others placed in the same embarrassing position.

LINN, Mo.

SUBSCRIBER.

"Subscriber's" question is discussed at some length in volume four, page 533 of this JOURNAL.

Many years ago a question similar came up in the Miss. Valley Asso. In that case the color on the surface of the gold was purple, but in some positions, looked black. Dr. A. M. Leslie and the present writer had experimented and were convinced that the gold used had a trace of iron combined with it. It was noticed occasionally when Taft & Watt's crystal gold had been used, and also with Abbey's and other foils. In all cases that came under our own observation, we found the sulphocyanogen of the older authors, and we think this was the agent causing the discoloration.—ED.

OBTUNDING SENSITIVE DENTINE.

I DEEM it the duty of all operators to employ such methods as will reduce the pain of dental operations to as nearly a minimum as possible, for thousands of teeth are lost every year because of the reputation dentists sustain as pain producers.

My method for the painless excavating of sensitive dentine has aided me in my work more than anything I have tried, is of a mechanical nature. After adjusting the rubber dam, wipe out and dry the cavity thoroughly. If pain is produced use cotton moistened with carbolic acid; and if the decay is deep seated, it will be found necessary to dry the cavity often. To excavate,

use sharp instruments of the *same temperature* as the tooth. To keep the instruments warm I use a small metal tray mounted on four legs long enough to sufficiently raise it above a lamp or burner and keep it the desired temperature. The instruments may be dipped in warm water before using. In short, keep the cavity dry; and if the atmosphere chills the tubuli cauterize with carbolic acid, and use sharp, warm instruments so as not to shock the nerve pulp, and otherwise painful operations will be rendered painless, much to the comfort and delight of the patient, and to the profit of the operator.

GOSHEN, IND.

C. W. LEAKE.

Compilations.

"Gather up the Fragments."

THE RELATION OF DENTITION TO AURAL TROUBLES.

Are very important in infancy; before puberty, this process is most active, causing often great nervousness, especially in girls overworked in schools or shops. The catarrhal fever, to which this class of persons is subject, may simulate typhoid fever, for which it has been mistaken. Adolescents sometimes get their wisdom teeth with difficulty—indeed they often are not cut until the patient is thirty years or more of age. In consequence of the aural irritation excited through nervous sympathy in such cases, subacute and chronic catarrh of the middle ear, giving rise to extreme deafness, is of frequent occurrence; deafness may come on so gradually that the patient is unaware of its existence until its progress has been marked. Dentition is thus liable to be an important factor in catarrh of the head, and should never be overlooked in treatment. The retention of pulpless teeth should be avoided, especially in persons wanting in nervous tone.

Overworked shop girls, living under faulty hygienic conditions, having dental irritation, sexual disturbances, and the like, are extremely susceptible to aural catarrh, giving rise to extreme deafness.—SAMUEL SEXTON, M.D.

THE PRIMARY ANÆSTHETIC STAGE OF ETHER.

I WOULD like to say a few words about giving ether for its first anæsthetic effect. The effect of administering ether in this way is much like nitrous oxide. Its advantages are very great. A man comes into your office with a painful abscess of the finger, and you propose to open it. If you give ether to full insensibility, you have to keep him in your office two or three hours, which is a great inconvenience. If you do the operation at his house, he has three or four hours of headache and discomfort, whereas if you give ether to the first insensibility he recovers immediately and perfectly. You can let him sit down and hold up one hand while he holds the ether sponge himself. When the hand drops you have a period of from thirty to ninety seconds, in which the man is in a state of insensibility, during which time you can open an abscess, or reduce a dislocation, or perhaps even replace a hernia. In a few minutes the man is fully recovered and is able to walk away. I think this method of administering ether is absolutely free from danger. It has been objected to by good authorities on the subject of anæsthetics, that partial anæsthesia is always a condition of peril. Very good; but you do not keep the patient in a state of partial anæsthesia. You simply take advantage of a stage through which he must pass, and therefore you do not add in the least to the danger.—Dr. JOHN H. PACKARD, Surgeon to the Philadelphia Hospital, in *Polyclinic*.

Editor's Specials.

"Write the Vision and make it plain."

DOES THE STUDY OF SPECIALTIES TEND TO EGOTISM?

IN our AFTERMATH, p. 304, June number of the JOURNAL, is a short selection from the *N. Y. Observer*, from which we repeat this: "The invention and discovery of new methods of reaching the end desired, new views in arts and knowledge in every

department, serve to make the student more proficient in that branch to which he consecrates his energies, and to train experts and teachers. The consequence is that as each school and each scholar in that school becomes master, he looks with pity and then with contempt on the man who has not pursued his line of thought and inquiry. His high estimate of his own attainments compels a mean opinion of the knowledge and wisdom of his less learned neighbor. Conceit begets contempt."

That is a little hard on specialists, but the *Observer* is regarded as much wiser than the average newspaper, at least it was so regarded when the *Prime* editor of the country was at its head. Still, specialism, or, if preferred, call it hobby-riding, is the true way of making progress in science, art, or civilization.

We suffer while writing this with very severe "aching of the bones," (?) which is possibly an affirmative answer to our caption struggling for utterance. Be it so. We acknowledge that we hold our *matured* thoughts at a premium; for we know how much they cost. And yet we have never been strictly a specialist, but continued to study and practice medicine even when no longer able to practice dentistry.

But we are not singular in the results of special study. If one of you undertakes to study the character of your *Ant*—Madam Pismire, you will soon believe she is the most thoughtful, prudent lady that lives, and your prejudice against color will be banished because she is black.

A part of these thoughts started from reading our report of some of Dr. Black's remarks on microbes, in our June number. He has been after the bugs, or switches, and we are glad of it; for he is the very man to put after them. We have confidence in our reporter, but of course we know that the speaker's thoughts may not be fairly represented. To report a discourse on an intricate science is not easy.

Before going further allow us to say we believe in microbes, and in Dr. Black too. Perhaps no other one of us all is struggling so hard against the current of professional ignorance. We wish him to believe in microbes, but not that they are only and all the things that exist.

If our report, as we presume, is reasonably accurate, we find evidence of *one idea* sentiments at bottom of page 265, June number. "If I take a piece of meat and lay it out in summer expos-

ed to the air, you say the meat will spoil; I say no. If I take meat broth you say it will spoil; I say no. Thus I might go on with a whole lot of unstable materials. They do not spoil themselves but are spoiled by something that does not belong to them. Chemical force, the result of a chemical action, brings stability. A salt once formed remains a salt so long as it is left alone."

We are told that these things do not "spoil themselves." Of course not, they are as dead as salted mackerel or a quartz crystal. To "spoil themselves" they require will power and activity, but they are passive. They "are spoiled by something that does not belong to them." But are there no spoilers but microbes? The piece of meat was probably killed with a few red corpuscles in it. In these, during life, is stored oxygen in a passive state; and as it is held passive by vital force, it follows that as soon as life is extinct the oxygen is liberated in its active state. At once it acts on oxidizable matter, and the corpuscle is abundant in such material. It seems to take "one or two days" to cultivate a good crop of microbes; but it does not require even *one or two seconds*, for affinity to begin its action, when restraint is gone and contact is permitted. As surely as the Holy Spirit will not desert the true christian, so surely affinity will not desert the smallest atom of matter. There is no race between the plants and chemical force, as to which gets there first, for the latter is on the spot, and begins action the instant death takes place, and often before. As for instance, in sunstroke oxygen is rendered active, and burns the phosphorized matter in the corpuscle, and hence the fearfully high temperature is not strange.

We are told, "a chemical action brings stability. A salt once formed remains a salt so long as it is left alone." That is a trueism.

It is not clear that light stands alone as the preëminent force as suggested near the top of p. 266.

We like dogs and dog stories, but only a few can indulge freely in the latter without overdoing things; and we fear our good brother Black, after all our worship of him, is merely human.

That was a good dog—gathered "materials for his uses" while too many dogs expect to be boarded by their masters. But he *died*. That was kind, to be sure; but we suspect he was killed. He would have remained as he was to the end of time, but

for his environment. From the stand-point of chemistry but one being has ever died on earth. All the rest of the dead have been *killed*, and a large majority of them by chemical action—by the force of affinity. *The MAN*—our great High Priest on Calvary, “gave up the ghost,” we are told—literally, “sent away His spirit.” Had He waited till the soldiers killed Him, as they did the thieves beside Him, He would not have “sacrificed Himself,” in carrying out the duties of His priestly office.

But we are told that the dog’s carcass “would remain as it was till the end of time if no other life began there.”

That is too strong for our creed. That carcass has in it the elements of its own destruction, and some claim enough of these to execute the sentence, “Dust thou art; and to dust shalt thou return.” Now, if the good doctor had said, as reported on the preceding page: “till the end of time” “if not spoiled by something that does not belong to it”; that would be true of living dog or carcass.

But just think,—the matter of the carcass is chemically active and all its particles are now the playthings of affinity. Think, too, of this force running riot in the improvement of its opportunities. Bear in mind that in the building up or taking down of organic bodies, whether animal or vegetable, chemical laws are never violated. Affinity is always at hand, ready to do its duty. Vitality is one of the leading forces that modify its action, but it is always acting in proportion to its opportunities. Or as Liebig states, “In vegetable and animal substances, the elements obey mechanical and chemical laws, if their action be not removed by resistances.”

And how long does it take affinity to manifest its action between unlike atoms in contact? Put two measures of hydrogen and one of oxygen together, and pass an electric spark through the mixture, and you will find that affinity is not perceptibly behind electricity. Can you persuade the affinity to detain a few moments so that you can the better watch the process?

The dog is killed with all the chemical agents in his carcass free from the influence of life, and ready for new combinations, if preferred by affinity. How can this constant force be held back till a brood of microbes are cultivated? Of course the microbes will come, and greatly aid in reducing the carcass to

dust, but that they do all the work is absurd. As well might we claim that manure and moisture make the plant, and that light and heat have nothing to do with its growth. And we think Dr. B. believes this too, and that reporters have misunderstood him.

The microbe theory is not new. This is the third time in our professional life that the advocates of the little fellows have claimed so much for them. In the early part of Liebig's career, he was beset by them, and he assigned them to their proper place, while acting unconsciously, perhaps, as the teacher of natural science to the civilized world.

In the controversy referred to above, is found a paragraph in Liebig's *Chemistry and Physics in Relation to Physiology and Pathology*, revised and corrected by the Author from the tenth London edition. The paragraph is as follows: "The constituents of vegetable and animal structures have arisen under the dominion of an active cause of change in the form and properties of organisms; and this is vital force, which decides the direction of attraction, and opposes the force of cohesion, heat, and electricity, destroying the influence of every cause that hinders the association of atoms in combinations of a higher order without the organism. In compositions of such various nature as the organic atoms, those other forces occasion a change of form and condition, when vital force, after death, no longer opposes their action. The same leaf, or the same grape which possessed the capacity of giving off pure oxygen to the atmosphere, submits to the chemical action of the oxygen from the moment of its separation from the organism, and its being brought in contact with the air.

No organism—no portion of an animal or plant is capable, after the extinction of vital energy, of resisting the chemical action which air and humidity exercise upon it, and its elements fall back under the unlimited dominion of chemical force. Fermentation and putrefaction are the stages of its retrograde development, presenting less perfect combinations, until at length the organic atoms, in consequence of continuously acting unorganic forces, return to their simple original forms, in which they may serve for the development and nutriment of new generations."

The above quotation is probably the clearest statement in our language as to the process of building up and taking down

organic structures. Chemical affinity is co-extensive with matter, and no change in the form of matter takes place without its presence and manifestation.

But throughout the discussion, the author never fails to recognize the microbes. For instance, notice his allusion to the grape leaf giving out pure oxygen (in the passive state because controlled by vegetable life). But the *moment* it is separated from its organism, it is acted on by this same oxygen, now active because not controlled as above, while the atoms of the leaf are active too, because freed from the same control. The microbes can and do help, but they must always find chemical action ahead of them.

But this paper has become too long, and must be closed.

We have probably stated before that, in coming into it, we found the great want of the dental profession to be a more thorough knowledge of chemistry. This is its great scientific want yet. It is the great want of physicians. Say *chemistry*, and you have named the weak, the dark spot in medicine. Some medical schools have passed the graduates by allowing a lower *per cent.* on this science than on others taught. There seems to be a prejudice against this most important science. We fear this prejudice is contagious, and that we have caught the disease. Most physicians will agree that *some* medicines act chemically—that an alkaline carbonate may neutralize acidulated fluids in the stomach—but that is about as far as they go. They—and some dentists re-echo their twaddle—say that this medicine is “specific,” and that acts “dynamically,” etc. We have often tried to give our opinion of such expressions, and have always failed. Let Liebig try it. He says, “Every thing is *specific* which we cannot explain, and *dynamic* is the explanation of all which we do not understand, the terms having been invented merely for the purpose of concealing ignorance by the application of learned epithets.”

It is taken for granted that this paper will be regarded as an affirmative answer to our captional query. Be it so. A miser looks at a silver dollar till he concludes it is larger than the moon; and he proves his theory by holding it between his eyes and Earth's satellite. Having been the first to try, in public teaching, to adapt the science to the wants of dentistry, it may be we can't see the moon through chemistry. But don't let yourself believe that chemistry can't take care of a dead dog.

THOUGHTLESS, IF NOT MORE SO.

ALL readers of the dental journals must remember that there has been long and earnest discussion as to the ability to appropriate and assimilate inorganic matter by animals. Many of our profession have insisted, at association meetings, and elsewhere, that all such substances must be organized, if not vitalized, by passing into vegetables. If our memory serves us faithfully, a part of this discussion started in the way of criticism on the use of bone phosphate as recommended long ago by Taft and Watt, in the *Dental Register* and otherwise. We had been using this phosphate eight or nine years before our professional association with Dr. Taft, and had all these years obtained as satisfactory and as uniform results in chronic cases as we had with other medicines such as the preparations of iron, iodine, bromine, etc. In all those years we prepared the phosphate directly from bones. In later years we have sometimes made our own preparations, and sometimes prescribed that made by others on the same process.

The strangest thing of all, in this connection, is that this bone phosphate has been called a mineral substance, an inorganic material, etc. And in some cases, (of course we don't claim in all,) where brethren have claimed to have experimented and failed of good results, the neutral phosphate, and not bone phosphate, was the material used. Of course, failure was almost inevitable.

The neutral phosphate, likely to be given on an order for phosphate of lime, is easily decomposed, even the carbonic acid in the circulating fluids, or in the alimentary canal, can take the lime from the phosphoric acid; and it is quite possible for the latter named acid to find something it likes better than lime, as, for instance, lime is a caustic alkaline earth, while ammonia (often present) is a pure alkali, and will claim at least a dividend of the phosphoric acid. The lime thus liberated must act as an irritant till again in combination.

But the bone phosphate is decomposed with great difficulty. A white heat has no tendency to separate the acid and base, though it is a subphosphate. And but few chemical reagents are capable of decomposing it. "Herein is wisdom," in that our

frame work is, to a good extent, composed of a salt so permanent. And this is only half the story—even less—for in the formation of tissue—call it by cells, or what you please—this salt is present as an essential.

It is plain that the objection that this remedy is inorganic falls forceless. Let us take some vegetable rich in bone phosphate, burn it to ashes and extract this salt. Then take lean meat, beef or mutton, and treat it the same way, and compare the salts thus obtained with that directly from bones, and you will find the results alike, and why not? for all are organic if any is.

Another objection that is often urged against this salt as a remedial agent, is its insolubility. Text books, physicians, and dentists state that it is inert because insoluble. But soon they tell us that it is highly soluble in hydrochloric acid, usually found in the stomach, and that the insoluble phosphates are readily dissolved in fluids holding carbonic acid.* Chemical text books tell us the same; hence the objection of insolubility has no standing.

Another thoughtless word or act is to state that the human system can't use any inorganic substance, then to turn to the desk and prescribe pure metallic iron to a pale school-mistress. Like a good girl she swallows the finely divided iron, her system uses it, and her cheeks become rosy. And it makes not as much difference as one would suppose what preparation is used, for the system can use even the stubborn sesquioxide (known well to older dentists as jewellers' rouge.)

In the human system iron, after appropriation, is found as a protoxide, a carbonate of the same, and as a sesquioxide. And the chemistry of life readily changes almost any preparation of iron into these forms.

But even if the bone-phosphate were inorganic, it does not follow that it cannot be a remedial agent, or a constituent of food. Is it not well known that fowls digest the sand and gravel they eat? Before fifteen years of age, the present writer had held autopsies on dozens of chickens and several turkeys to find out what became of the gravel stones, and in every healthy bird they were digested. And this agrees with the observations of Lehman and others. Lehman says to this effect: "The quantity of silica occurring in the animal organism essentially depends on

* After stating this, in substance, Graham adds,—“It is possibly in this manner that phosphate of lime is dissolved by the alkaline animal fluids.”

the greater or less quantity of silica in the food, and consequently, that the origin of this body must be principally referred to vegetable food and *silicious water*, (and further, perhaps in the case of birds, to *the sand which they swallow*.) is rendered sufficiently evident from the experiments of Gorup-Besanez, if indeed, any demonstration of the fact were required." (The italics are not Lehman's.)

We suppose silicious water and sand will hardly be claimed as organic; and if not, we find the author quoted recognizing appropriation from both kingdoms, apparently believing that silica is silica.

We made the above quotation once before, as both it and our brief comments have been thought worthy of adoption by another, we have thought it worthy of another application, with a little change of comments.

A CALL FROM HIS QUIETUDE.

"WILLIAM TAFT, M.D., D.D.S., Professor of Operative Dentistry and Histology," is what the N. W. College, at Chicago calls him. Some time ago we called him Willie, and at the same date he was in the habit of calling himself "Taft and Watt's boy."

We know of no superior to "Will," in the science and art of dentistry; and our patience has been long and sorely tried because he would neither talk, nor write for the periodicals. Now he'll have to say something, and somebody may catch him at it.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

TO RESTORE PLIABILITY.—Gas bags that have become hard may be made measurably pliable by immersing them in coal oil.—*Items of Interest*.

FOR NEURALGIA.—DR. J. P. HILLEGASS recommends a mixture of chloral and camphor; equal parts, painted over the affected nerves.—*Med. World*.

TO SECURE A GOOD FILLING.—DR. W. W. ALLPORT advises the use of oiled writing paper, placed between the instrument and oxyphosphate when pressing the pellet into place.—*Dental Review*.

BANDS FOR CROWN OR BRIDGE WORK, should always extend under the free margin of the gum a short distance; otherwise decay is almost certain to appear at the exposed neck of the tooth.—C. L. HUNGERFORD in *Western Jour.*

TO REPAIR LEAKING DAM.—I keep a number of shoe eyelets with the holes closed with soft solder, and if by accident the dam becomes punctured during an operation, I pass one of the eyelets into the puncture and stop the leak.—L. M. MATHEWS in *Western Journal*.

TO DEODORIZE BENZINE.—The disagreeable odor of benzine can be removed by shaking repeatedly with plumbate of soda, made by dissolving oxide of lead in caustic soda, and rectifying. Simply shaking with charcoal and filtering will partially remove the odor.—*Cin. Lancet-Clinic*.

TO REMOVE STAINS FROM TEETH.—Peroxide of hydrogen made into a solution of the strength of five per cent., mixed with powdered pumice and well rubbed over the teeth removes most stains. The teeth should afterward be well cleansed with tepid water, but the application given above is harmless.—*British Journal Dental Science*.

MALARIA AND TOBACCO.—A Western medical writer has discovered a new and dangerous source of malaria to be the cigar made of tobacco grown in malarial regions. He thinks the recent invasion of the New England States by malaria due to the increased use of Southern-grown tobacco and Southern-packed cigars.—*American Practitioner*.

MAKING REPAIRS.—To replace a tooth or block in a rubber plate, I file away the plate as much as necessary, cutting in a retentive shape; then with rubber warmed until very plastic, (tooth also warm,) cement the tooth to its place on the plate with warmed rubber, invest in one investment and vulcanize. It is not necessary to wax up and separate your flask, as is usually done.—L. S. MATHEWS in *Western Journal*.

SALICYLATED PAPER.—*Bundschau* (Prag) says a new dressing for wounds has been offered the German war department. It is salicylated paper, which is to replace salicylated cotton. Advantages claimed for it are extreme lightness, removal from wounds in one piece without leaving fibres adhering as with cotton, and cheapness. It is much cheaper than cotton. Its adoption for the army will be determined by its durability.

TO PREVENT RUBBER CRAWLING.—Soften the first pieces for packing, for a few seconds, on one side in chloroform and then quickly press soft side down to place with dampened fingers or otherwise, and it will stick. In packing the other pieces press so as not to stretch them. It is sometimes handy to hold a point of rubber in place by attaching a little string of rubber to it, extending the string into the surplus gutter and there fastening it with a little tack.—F. A. W. in *Items of Interest*.

AN AID IN ANÆSTHESIA.—DR. M. M. HOBBS advocates the advantage of warming ether previous to its administration in its production of anæsthesia. He and Dr. Taylor have tried the method in upward of thirty cases, and he writes that the patients not only came under the influence of the drug more readily, but they also recovered more rapidly and pleasantly from the anæsthesia than patients generally do who have been brought under its influence in the ordinary way of administering ether cold.—*Cin. Lancet-Clinic*.

IMPURE ICE.—The New York State Board of Health, in a report on the dangers of contaminated ice, draws the following conclusions: Ice formed in impure water has caused sickness; it may contain from 8 to 10 per cent. of

the organic matter dissolved in the water, and in addition, a very large amount of the organic matter that had been merely suspended or floating in it; it may contain living animals and plants, ranging in size from visible worms down to the minutest spores, and the vitality of these organisms may be unaffected by freezing.—*Canada Lancet*.

SOLID OXYGEN.—Liquid oxygen, in small quantities has been produced by a number of experimenters, but it is only recently that solidified oxygen has been obtained. This interesting experiment was performed by Professor Dewar at the Royal Institute a short time ago. It was accomplished by allowing liquid oxygen to expand into a partial vacuum, when the enormous absorption of heat which accompanies the expansion resulted in producing the solid substance. The oxygen in this condition resembles snow, and has a temperature of 200 degrees C. below the freezing point of water.

LINING CAVITIES.—DR. UERBST'S method of lining cavities with gold for filling with amalgam is as follows: A large cylinder of Wolrab's gold is compressed between the fingers and dipped into a very thin solution of gum-copal in sulphuric ether, which is used for the purpose of preventing the mercury of the amalgam from uniting with the gold. When this compressed cylinder has been moistened with liquid, the surplus is pressed out with the fingers, the other allowed to evaporate, and then by means of a piece of cotton, the gold is pressed against the labial wall of the cavity in the tooth to be filled with amalgam. The gold in this manner can be thoroughly condensed by means of a rotating burnisher in the engine, and will not alter the shape of the cavity. When ordinary round undercuts have been made, the amalgam will be held in position without any trouble.

IODOFORM AND SILVER.—A curious effect of iodoform upon silver is reported by DR. PONCET, who had his attention directed to it by a patient, to whom he had been applying iodoform dressings, telling him that all soups and other diet for which she used a silver spoon had a very disagreeable taste, and the spoon itself had a garlicky odor. Upon investigating the subject Dr. Poncet found that silver that has been in contact with iodoform, or which is even touched by the fingers after they have been in contact with iodoform, acquires a nauseous odor, resembling that of garlic, which becomes more perceptible upon rubbing the silver. A drop of saliva from a patient fully under the influence of iodoform is said to be sufficient to impart this odor to silver, or the mere exposure of iodoform and silver in the neighborhood of one another. The odor is not that of iodoform, but is thought to be due to a decomposition product.—*Medical Press*.

TO TEST THE VITALITY OF TOOTH PULP.—The preliminary isolation and drying of the suspected tooth and the immediately adjoining ones is the same as by the old method, although the rubber dam is not so essential. The tooth is then tested by applying to it a piece of gutta percha which has been heated over a flame. It takes hold and transmits its heat at once and there is an almost immediate response if the pulp is living. If there is no response, it may, without being again heated, be applied to one of the adjoining teeth, with a known living pulp, and the comparison noted. The old method of testing with a heated steel instrument is terrifying to a nervous patient and

the response if the pulp be alive is often tardy in coming or may be entirely absent. Apprehensive patients under the influence of fears or imaginings will frequently, when a heated instrument is applied, mislead the operator by declaring that a tooth is sensitive when you know it to be pulpless.—*Dental Review*.

ANALAGETIC ACTION OF CARBOLIC ACID.—DR. R. MCNEILL has been experimenting upon himself with carbolic acid the cresol group of compounds, in order to test their local analgetic action when mixed with oil, glycerine, etc. He arrives at the following conclusions: 1. That the agents mentioned produce analgesia when applied to the skin.

2. That mixed in certain proportions with glycerine and olive oil they take away sensation to pain without untoward effect.

3. That the strength used must vary according to the thickness of the epithelium, and perhaps the acuteness of the sensation.

4. That certain operations may be performed painlessly.

5. That they are corrosive applied to the skin, unless diluted.

6. That glycerine has more power in preventing corrosion by these agents than olive oil, and might probably be administered with benefit in cases of poisoning by carbolic acid.—*Edinburg Medical Journal*.

FILLING PULPLESS TEETH.—Teeth with dead pulps may safely be treated and filled at one sitting, provided there is not too much inflammation. If there is a fistula, treat as follows: Wash out all pus and remains of the pulp with peroxide of hydrogen, forcing the peroxide through the fistula, and keep this up till it ceases to bubble; then wash out with bichloride of mercury, 1 gr. to the ounce of water, thoroughly dry by washing with alcohol, evaporate this with hot air, finally force carbolic acid through the tooth and fistula, wipe out all the carbolic acid from the tooth and root canal; now the root canal is ready to be filled, no further treatment being required. If there is no fistula, treat as above, being careful not to force any septic matter through the apical foramen, and fill at once, if there is no inflammation to prevent. If there is inflammation, paint the gums with chloroform, tincture of aconite and tincture of iodine, equal parts, and direct the patient to return in three or four days, when the chances are that the tooth may be filled. Should any trouble follow the above treatment, make an opening through the gum to the apex of the root and treat through that.—J. G. HARPER in *Items of Interest*.

TYPES OF TEETH IN DISEASE.—DR. J. F. RYMER gives the following characteristics of teeth in disease: **GOUTY TEETH.**—In the Norse type the teeth are, as a rule, solid, blunt, and thick at the edge, the incisors being more worn than the canines and molars. Gouty teeth have a tendency to work out without caries, from osteitis extending from the neck along towards the end of the root. The gums are often retracted.

STRUMOUS TYPE.—Teeth are large and of chalky appearance, often having milk white spots mostly upon the buccal surface.

PHTHISICAL TYPE.—The teeth are small and irregular, the palate is long, the central incisors lean towards each other, producing the "rabbit jaw"; or the teeth may be set at an obtuse angle.

RICKETY TEETH.—The temporary teeth are erupted in the normal manner, but at about $2\frac{1}{2}$ to 3 years of age they loosen without any visible inflam-

mation of the gums and drop out, the roots presenting no signs of absorption. The permanent teeth are often erupted later than usual and the centrals frequently have two small notches showing lines of development. They are either carious when erupted or decay shortly afterwards.

STOMATITIC TYPE.—Some of these teeth present the tip and half of the lower surface of the central incisors, devoid of enamel. In others there will be a ring of exposed dentine, which is of a dirty brown color, near the cervical margin.

MERCURIAL TEETH.—The surface of the tooth is seamed and jagged, yellow and irregular in form the dentine frequently has rings of enamel on its surface, giving it a pitted appearance. In order to distinguish between a congenital and an acquired mercurial tooth, the tip or edge is a sure guide. (Before the age of 20) for in the former the cutting edge is always devoid of enamel, whilst in the latter the enamel in this situation is often perfect for a distance of one or two lines.

SYPHILITIC TEETH.—The chief points are: notching of the two centrals, which are always symmetrical; if the notching is not confined to the centrals, then the cause is most likely to be the mercury, etc. The teeth are small, of a dirty grey color, and narrower at the cutting edge than at the neck. Again grooves may be seen along the surface of other than the centrals. The grooves and other characteristic peculiarities begin to get worn down by the age of twenty, hence they are far more difficult to diagnose with certainty after that age.—*Dental Record*.

Societies.

“Wherewith one may edify another.”

MEETINGS.

Southern Dental Association, Old Point Comfort, Virginia, Tuesday, August 2, 1887.

American Dental Association, Niagara Falls, N. Y., Tuesday, August 2, 1887.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

The Central Illinois Dental Society, Springfield, October 11 and 12, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 25, 1887.

Ohio State Dental Society, Springfield, Tuesday, October 25, 1887.

SOUTHERN DENTAL ASSOCIATION.

THE meeting of the Southern Dental Association at the Hygeia Hotel, Old Point Comfort, Va., August 30th, promises to be a grand success if not the largest meeting of the dental profession on the continent. The Central Traffic Association as well as the Southern Passenger Association will give reduced rates to those who wish to attend. Those purchasing tickets from Central Traffic Association agents will get certificates from railroad agent when procuring ticket, which will enable the holder to return from "Old Point" for one-third fare. Those who wish to take advantage of the reduction offered by the Southern Passenger Association will apply to Dr. J. Y. Crawford, Cor. Sec'y, Nashville, for certificates which will enable the holder to make the trip by paying one and one third fare. Tickets to be good twenty-four hours after adjournment of the meeting.

The Virginians and our noble grand old President, Dr. W. W. H. Thaxton, are exerting themselves to make the meeting a grand one. A cordial invitation is extended to all, East, West, North and South.

J. Y. CRAWFORD, *Cor. Sec'y.*

WESTERN DISTRICT DENTAL SOCIETY OF ILLINOIS.

THE second annual meeting of the Western District Dental Society of Illinois, will meet in Macomb the third Tuesday and Wednesday of October. Special attention will be given to clinics. All dentists are cordially invited to attend.

R. W. BAILEY, D.D.S., *Sec'y.*

INDIANA STATE DENTAL SOCIETY.

THE twenty-ninth annual meeting was held at Lake Maxinkuckee, Ind., Tuesday, June 28, 29, 30, 1887. Three members were chosen to represent the State Board of Dental Examiners. They were Dr. Chappell, of Knightstown; Dr. P. G. C. Hunt, of Indianapolis; and Dr. Kirk, of Kokomo. Dr. Robert Van

Valzah received a commission from the governor, and Dr. Church from the State Board of Health, to act on the examining board. The next meeting will be held at Terre Haute.

Officers chosen were: W. N. Wilson, Richmond, President; J. B. Morrison, Indianapolis, 1st Vice-President; T. A. Goodwin, Warsaw, 2d Vice-President; R. W. Van Valzah, Terre Haute, Secretary; Merritt Wells, Indianapolis, Treasurer.

THE SOUTH CAROLINA STATE DENTAL ASSOCIATION.

THE seventeenth annual meeting, held at Charleston, April 27, 1887, was well attended, many excellent papers were read and Dr. J. R. Knapp, of New Orleans, demonstrated his crown and bridge-work. The dentists of Charleston entertained the society with a banquet at the Charleston Hotel.

The officers elected are: *President*, Dr. L. S. Wolfe; *First Vice-President*, Dr. J. H. E. Millhouse; *Second Vice-President*, Dr. B. Rutledge; *Corresponding Secretary*, Dr. E. C. Ridgell, Batesburg, S. C.; *Recording Secretary*, Dr. R. A. Smith; *Treasurer*, Dr. G. W. Dick.

The next annual meeting is to be held in Greenville the third Tuesday of July, 1888.

INTERNATIONAL MEDICAL CONGRESS.

EXPLANATORY STATEMENT.

At the recent meeting of the American Medical Association at Chicago the following resolution was adopted by an almost unanimous vote:

“Resolved, That the regular graduates of such Dental and Oral Schools and Colleges as require of their students a standard of preliminary or general education, and a term of professional study equal to the best classes of medical colleges of this country, and embrace in their curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction in Dental and Oral Medicine and Surgery instead of Clinical Medicine and Surgery be recognized as members of the regular profession of medicine, and eligible to membership in this

Association on the same conditions and subject to the same regulations as other members."

This resolution is plain and comprehensive. Learning, however, that there is still uncertainty in the minds of some, as to the rights, privileges, and status of regular graduates of the class of Dental Colleges specified in the resolution, in the ninth International Medical Congress, it is deemed right and proper to say that the graduates of all Dental Colleges whose requirements conform to the above resolution are considered as members of the medical profession and are eligible to membership in the American Medical Association, and may register and take out a card of membership in the Congress according to general regulations, precisely upon the same terms and under the same conditions as those who hold the degree of M.D.

Dental practitioners, who according to the above resolution are not graduates, but are recommended by members of the Council, become members of the Congress upon invitation, authorized by the Executive Committee.

The members of the Seventeenth Section differ in no respect from those of any other Section of the Congress and have the same rights, and privileges, and status.

Without doubt a large proportion of those who have received notice that they will be invited are fully qualified according to the above resolution. Whether all are cannot now be determined, nor is it important that it should be. It is desirable to have present all who have been selected for membership; it is also hoped that those who are qualified according to the resolution will become members, and those who have not this special qualification, but have high attainments in the Science and Practice of Dentistry may become members as any other scientific men.

Invitations will soon be sent to all who have signified a willingness to accept an invitation, and though for many it is not necessary, yet it is thought best to adhere to the original plan.

Should there be any who have delayed complying with the request of the circular of Dr. F. H. Rehwinkel in regard to invitations, they are requested to comply speedily.

J. TAFT, of Section 17, I.M.C.

—*Dental Register.*

CONDITIONS OF MEMBERSHIP IN THE NINTH INTERNATIONAL MEDICAL CONGRESS.

"RULE 1. The Congress will consist of such members of the regular medical profession as shall have registered and taken out their ticket of admission, and of such other scientific men as the Executive Committee of the Congress shall deem desirable to admit. The dues of membership for residents of the United States will be ten dollars (\$10). There will be no dues for members residing in other countries. Each member will be entitled to receive a copy of the *Transactions* of the Congress when published by the Executive Committee."

This rule, plainly defining the conditions for acquiring membership and participation in the approaching International Medical Congress, was adopted and published in English, French, and German, in Circular No. 1, issued and widely distributed in both this country and Europe by the Executive Committee more than two years ago. It was repeated in Circular No. 2, issued in July, 1886, and also published in most of the medical periodicals of this country. And yet we notice that some of our State and local medical societies have appointed *delegates* to the Congress, and we are often receiving letters making inquiries touching the same subject. Hence we have again quoted the rule, and wish to state explicitly that the doors of the Ninth International Medical Congress will be open to all members of the regular medical profession, in all countries where such profession exists, who may apply to the Registration Committee in Washington, D. C., enter their names in full on the roll, and take their tickets of admission. Those residing in this country must pay at the time of registering the \$10. From those residing in other countries no fee will be required.

In regard to the registration of educated dentists, about which there has been some question, it is sufficient to say that the same rule will be followed as governed at the London Congress of 1881. The establishment of a Section of Oral and Dental Surgery is a full admission that it constitutes a part of the domain of general medicine and surgery, and that all who, by education and proper legal authority, practice in that special department,

are "members of the regular medical profession." At the London Congress they registered with the common prefix "Dr.," as did a large proportion of eminent members of the profession in other departments. At the Congress in Washington it will be proper for them to register with the title Dr., M.D., D.M.D., or D.D.S., according to the terms of authority conferring upon them the right to practice their profession.—*Journal of American Med. Ass.*

ERRATUM.

ON page 318 July JOURNAL, Dr. Garrett Newkirk is made to say: "If you wait until the resolution is gone you only aggravate by stimulating." It should have been, "If you wait till the first stage of an inflammation is past, stimulants may do harm."

Books and Pamphlets.

NINETEENTH CENTURY SENSE: THE PARADOX OF SPIRITUALISM. By JOHN DARBY, Author of "Odd Hours of a Physician," "Thinkers and Thinking," "Two Thousand Years After," "Brushland," "Hours with John Darby." Philadelphia: J. B. Lippencott Company. London: 10 Henrietta Street, Covent Garden. 1887.

We, too, are somewhat visionary—have a lively imagination, can dream against any woman and give her two hours of a start; and have seen most of the funny imaginary sights described by the author, and can say that the imaginary look to be as real as the *real*; and yet we don't know what to think of the book, nor what to say about it.

This much, however: Any one who has a taste for such things, will read this book endwise; that is, he will begin at one end, go in, and keep going till he comes out at the other end. He will begin with the title, and close with "*Finis*."

To show the writer's fluent style we select specimens:—"INTRODUCTORY.—That which was the origin and is the meaning of the report of the Seybert Commission was the origin and is the meaning of the volume in hand. It is known to more than a little multitude of people that a fund was left, several years back, to the University of Pennsylvania, in trust, to be employed in examination of the so-called 'spiritistic' phenomena of the times."

And the closing words of the book—to all appearance the “conclusion of the whole matter”—is found as follows:

“The outcome of all contained in the present volume is that nothing is denied as to possibilities in the way of spiritistic things, but that perfection as to life and living is found the instant appreciation is reached as to a circularity and wholeness lying in ‘state of mind.’ With the last word impression is desired to be deepened concerning the spiritual part of a man: that which is, in reality, the only man, the part that travels without the aid of either steamboats or locomotives, the part that wills and that finds movement in will, the part that is to be fed by imaginary meals, the part that makes and unmakes.

Who that understands will doubt the sensitive, or doubt as to what may be seen by himself or herself? Is it not simply undeniable and irrefutable that mediumship is one with cultivation; sight of ships by him who cultivates ships, sight of poems by him who cultivates poetry, sight of scores by him who cultivates music, sight of designs by him who cultivates architecture?”

For further particulars, see the book, price \$1.00.

Our Aftermath.

A GOOD APPOINTMENT.—DR. FRANK CREAGER, of Fremont, O., has been re-elected President of the Senate National Union. We know of none better fitted for the position.

WEDDING BELLS.—DR. L. M. JAMES of the firm of Watling & James, Ypsilanti, Mich., was married June 22, to Miss Eva Hallock, of Ann Arbor. May their voyage be a pleasant and successful one.

CLINICS.—“I adhere to clinical instruction and I do it with good intention. I think it has done more to teach dentistry than all other means combined, bringing men to practice and principles at the same time.”—DR. W. H. ATKINSON.

A MARKET REPORT.—Skeletons have ruled firm and active throughout the year, with prices unchanged. We have been able to supply the demand for the common varieties promptly, but the finer grades were scarce, and orders for deformities could not always be filled at once. In this regard the market is still unchanged, although our broker in Paris has orders to buy everything offered at the usual rates.—*Surgical Trade Advertisement.*

HONORS CONFERRED.—Dr. Gustav A. Klare, of Leipzig, Germany, was elected an honorary member of the Dental Society of Central Germany. *Hofzahnarzt* Schneider, of Erlangen, Germany, at the hands of His Highness Prince von Russ, the silver Medallion of Honor, which is associated with the Prince Russ's Cross of Honor; the same gentleman was also elected a corresponding member of the Dental Society of Saxony.

WOMEN AS DENTISTS.—In the Pennsylvania Dental College there are nine women enrolled this term as students. In the Philadelphia Dental College twenty-six have been graduated in the past, and in the present class there are seven enrolled and two or three others attending occasionally. The Baltimore College graduated three women and then refused further admission, nor will they to-day admit women as students.—*Medical Record*.

A NEW WRINKLE.—A rather impecunious party met a friend who was sporting a new suit of clothes.

"Hello!" exclaimed the former, "where did you get those new clothes?"

"Hush, it's a secret. I'll tell it to you if you'll promise not to give it away."

"I'll promise."

"You know there is a new doctor in town?"

"Yes."

"Well, I sit in his waiting-room two hours every morning to make the public believe that he has got a patient."—*Texas Siftings*.

A QUESTION OF PRONUNCIATION.—An Iowa correspondent asks us what pronunciation of the termination *-itis* is correct. He states that he was taught to give the first *i* the sound of short *i* or that of long *e*, but that in his section of the country the prevailing custom is to pronounce it like long *i*. The stress always comes on that syllable; therefore it should not have the sound of short *i*, except in the oblique cases (*e. g.*, genitive, *-itidis*). Either of the other pronunciations is correct, according as one adopts the Roman or the English method. In our opinion, the former, which calls for the long *e* sound of the vowel in question, is fast gaining ground, and is destined to supplant the other entirely within a very few years.—*New York Medical Journal*.

THE TEETH FROM A MEDICO-LEGAL ASPECT.—The identification of dead bodies and criminals is sometimes a matter of much perplexity. For instance: the features of a dead body may be distorted or destroyed; the clothes changed or unrecognizable; and no ordinary circumstances left to make identification clear. Some such case occurred in Michigan. A man was found in a lake murdered. As the coroner was about dismissing the case as "unidentified," the neighboring dentist had the curiosity to look into the mouth. In a moment he said: "I have a chart of that mouth in my office," and though he could not then remember the name, he soon found it by referring to his chart-book. It resulted in tracing the murderer.—*Med. and Surg. Rep.*

THE OHIO JOURNAL

—OF—

DENTAL SCIENCE.

VOL. VII.

SEPTEMBER, 1887.

No. 9.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

THE PROCESS OF ABSORPTION IN DENTAL TISSUES.

BY WILL H. WHITSLAR, D.D.S., M.D., YOUNGSTOWN, O.

[Read before the Odontological Society of Western Pennsylvania, at Beaver Falls, June 14. 1887.]

THE retrograde metamorphosis by which the dental tissues are removed present phenomena of a singular and interesting character. Take for instance, the shedding of a temporary tooth; this phenomena, for we call it such because it presents to us something that is remarkable, and yet, at the same time, natural, obviously by reason of its being a physiological process, has attracted the attention of physiologists and other scientists from whom theories more or less varied have, from time to time, been advanced in explanation of the process. An examination of dental literature treating of absorption or resorption of the roots of deciduous teeth does not give very decided conclusions, though it is now believed by our best authors that the giant cell or odontoclast, of which we will speak later on, is the cause of this absorption. We learn from the history of the study of absorption that many of the ancients supposed that the milk teeth had no roots, while others conjectured that the crowns were separated from

their roots just as the horns of the stag fall from the head that bore them, and that the root then gave birth to a new tooth. As authority of opinion became recognized, we find a multiplicity of opinions. By some to the absorbent system was ascribed the agency of its accomplishment. Pressure of the advancing permanent tooth was proved inadequate to correctness when it became known that the roots were sometimes absorbed when there was not a sign of a permanent tooth. Corrosion by a corrosive fluid exuded by a carneous body which exhaled the solvent, and given the name of "absorbing apparel" by Laforgue, was another theory.

Laforgue believed that when the process began the nutrient vessels failed to supply nourishing juices, and a species of maceration obliterated the tooth structure. By Chapin A. Harris, and also many of the present day, resorption of the roots of temporary teeth was, and is believed to be accomplished by the product of a fleshy tubercle, situated beneath and close to the surface of the root that is being absorbed. This was first described by Delabarre. But it is not the purpose of this paper to make a *résumé* of all theories; for a theory to be true must be applicable to exceptions as well as to general rules. The absorption or resorption, if you please, of the roots of temporary teeth is, normally, a physiological process, but a phenomenon occurs frequently which, for the sake of nosology, might be called a pathological condition, although not a disease. It is where resorption of the milk tooth is accompanied by a new formation of osseous substance, which seems to be evolved when, for a time, the process of absorption is latent. One thing to notice concerning this is that when resorption has proceeded into the dentine the involution is not dentine in any circumstance.

The process of shedding the temporary teeth involves a resorption of all the dental tissues, from cementum to and including the pulp, first commencing with the alveolus and absorbing that and the pericementum, dentine, enamel, pulp. Of course all the enamel is not absorbed, but those portions in relation with the soft parts, but often a large portion of the crown is absorbed. You are no doubt familiar with the curious indentations that appear as grooves, facets, and depressions, all of which are rough and ragged. Microscopically examined, each depression is marked with a number of smaller cup-shaped excavations, in each of

which there is a net work of projections. These cup-shaped excavations seem to be the bed of cells which have been called *giant cells*, and, as these are the prime factors of absorption, they should be considered with regard to their physiology and morphology. What are giant cells? and from whence do they come? What is their office? Briefly, giant cells are granular masses of protoplasm, with one nucleus sometimes, but more often multi-nuclear, and are called "giant" because of their size compared to other cells. The nuclei are often grouped to the one side of the cell, and have a fine fibrillated network running through them. Their direct origin is not known, or not positive. Kolliker has given the name osteoclast, but those whose work is expended in dental absorption, Prof. Black, quite naturally calls odontoclasts. "Giant-cells are Nature's physiological agents, by whose aid she removes tissues that have performed their life office." Giant cells have their function in absorption of secretion. Their secretion is thought to be lactic acid, but whatever it may be, we know it to be a digestive fluid. You know the history of the ligature introduced into the tissues, or the spongegraft, but whither does it go? it goes, is gone, but where? And so we ask whither does the root of the temporary tooth proceed? It is disintegrated, becomes a solution, and disappears. Likened unto the digestive ferments of the stomach, this secretion of the giant cells no doubt plays its important part, and acts as an indispensable link in Nature's handiwork. This process of secretion is one of the principles of cell life, and when irritation is just enough to cause it, the digestive fluid exudes because the nutrition has been so great as to cause an increased stimulation. Any foreign substance introduced into the tissues provokes stimulation of the parts to activity, and when Nature, in her judgment, requires the limited space necessary for an advancing permanent tooth, the process of absorption is commenced, and we find there the root of the temporary tooth a foreign substance, proving itself an irritant; and yet we find that absorption does not take place unless there is *vitality* of the pulp existing. Prof. C. N. Peirce, in his admirable essay published in the August number of the *Cosmos* in 1884, distinguishes three essential conditions for *perfect* absorption of the roots of temporary teeth; 1st. The absorption must commence at the apex of the root; 2d., a vascular papilla near the absorbing surface; 3d. Vitality. In regard to the last we

have spoken, but why is this the case? Usually, and indeed quite always, there exists a chronic abscess at the apex of the dead temporary tooth, and giant cells are never found in connection with an abscess, or in the vicinage of pus. This probably explains the phenomenon. Of the first essential principle we have only to say that a *perfect* absorption, that is, symmetrically absorbed, commencement at the apex would be necessary, though for *complete* absorption it is presumed that such could be if the point of attack be toward the crown, or have several points commenced at the same time, which is often the case. The vascular papilla near the absorbing surface next commands our attention, and what we discover after the extraction of a temporary tooth is a carneous body, known to many as the "organ of resorption." This seems to be developed from the connective tissues of the root membrane of the milk tooth, and the medullary matter of the adjacent osseous tissue and is essentially a granulative tissue, so says Wedl. There is a hyperæmic condition of the parts, and the activity of the cells becomes augmented, in consequence of which the whole process of nutrition is carried on more rapidly. It is not accepted positively by all that giant-cells, or, that the absorbing organs individually perform the work of the entire absorption. It can be laid down as an indisputable rule however, that no result is the effect of a single cause, excepting the one first great cause, then why may we not say that both processes assert their power?

We have spoken of the roots being absorbed—what of the crowns—enamel? It is true that enamel does become resorbed, and the erosion and resorptive indentations make their appearance in it. Tomes has observed the deposition of osseous substance upon the outside of the enamel as spoken of in the commencement of this article. The life of the dental pulp is a necessary concomitant of the resorption of teeth, but its life gradually ebbs away advancing toward the coronal portion with great resistance, but lessened sensibility, as observed from actual observation. Where there is a great resistance these giant scavengers assert their power by direct attack, but when slow, nutrition begins to fail and fatty degeneration intervenes. The fat globules from the broken-down pabulum form fusiform aggregations, and follow the course of the blood vessels and nerves, and the parenchyma of the pulp shows a similar degeneration and a gen-

eral necrobiosis. The sensibility of the nerves remains till the last, for, the axis cylinder of each fibre is the last to succumb to this degeneration. We have thus treated of the absorption of the temporary teeth, not in all its details, but leaving those to be discussed, knowing that this subject is one that is obscure and extensive beyond the limits of this paper. From childhood let us revert to old age—senility, and the only point to be made is that where senile dentine and cementum undergo resorption, atrophy of the gum is often coincident, atrophy and absorption being eminently opposite to each other.

In conclusion you will notice that absorption in disease of dental tissues is quite infrequent, and this leads to an inquiry concerning the resorption of roots of implanted teeth,—does it take place, and how? That resorption of roots of implanted teeth does take place cannot be disputed, but that it invariably occurs, remains to be subjected to the test of Dr. Younger's experiments, and only time can tell. It is, strictly speaking, rational to believe, that any implanted tooth which, before its implantation had remained out of its socket for a time, has lost its vitality, and by what agency can its implantation restore life? The absorption of the roots, in such cases, cannot take place in the presence of pus, and when the conditions are such that pus predominates, the tooth loosens, and is lost without resorption. I ask the question, might not the cavities produced on roots of implanted teeth be a result of necrosis of the cementum? Dr. Weld ably discussed the plausibility of implantation before the First District Society of New York last November, and was seconded by Prof. Carl Heitzman, the eminent microscopist. He said, that, practically as well as theoretically, implantation will be a failure. Dr. Younger's plan has so far been, and may ultimately be, a grand success in many cases.

The point we learn, however, from this discussion is that resorption is done by the giant cells, osteoclasts for bone, odontoclasts for tooth structure.

HOW TO EDUCATE THE PEOPLE.

BY C. W. MUNSON, D.D.S., TOLEDO, O.

I SEE by the July number of the JOURNAL that Dr. Bethel advocates introducing the subject of dental teaching into the

course of study in our public schools. The plan is a good one, if practical, but would require almost a generation to make it effective. What can be done to at once penetrate the darkness, dispel the ignorance and overcome the indifference that prevails among the masses of our people, on the subject of health from a dental standpoint? Much has been written and many pamphlets have been printed and circulated by individual dentists, but all this is but a drop in the ocean. It is astonishing how little the great mass of our people know of what modern dentistry can do for them in the preservation or restoration of the teeth; but how can they know if dentists do not teach them? But how can effective work be done? Why should not every dentist arrange for the publication in his local newspaper, of a series of articles on dental topics, plain and practical and free from all scientific terms? Let every other method be tried, but for immediate effects, I know of none more effective than to put before people in their homes and offices, the truths that if heeded, will save them untold suffering in the future. There is no work the profession can engage in that will result in so much practical good, as this one of proper instruction of *all* the people, on dental subjects. It should receive more attention if our profession would occupy the place it deserves in the estimation of the people.

INDIANA STATE DENTAL SOCIETY.

LAKE MAXINKUCKEE, JUNE 28, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S.,
Toledo, Ohio.]

(Continued from page 365.)

REPORT OF THE COMMITTEE ON THE STATE OF THE ASSOCIATION.

DR. W. B. KNAPP read this report, which was as follows:

GENTLEMEN:—Your committee on the State of the Association find themselves like a vessel afloat on a strange sea, with neither chart nor compass, in quest of a strange port, of which they have heard but have never seen. If, therefore, like the preachers they begin their voyage in Genesis, feeling in the absence of all precedents, they trust that you will leniently whisper:

“Blow ye west winds, gently blow,”

lest the bark founder, as some of them do, ere they reach their text in Revelations. We have with us a few men whom we look upon with great respect and honor as the fathers of dentistry in this State, who were present at the birth of your association in 1858,—a few more who were present at the christening a year later, who will tell you that, while never a more rugged child, and one that suffered severely with the diseases incident to childhood, she has shown great tenacity of life, has witnessed the birth, and with sorrow, the death of several sister organizations of less vitality. Of all those who nourished so carefully the flame of life in our infant association, and tried to quiet the growing child, the committee felt tempted, at this point to pay this tribute to the late Isaac Knapp, by saying that none had a more tender affection, none devoted more care and thought to the best means of strengthening the association, none was more jealous of its honor, had more practical views as to its present work and usefulness, or higher ideals for its future; but he was only one among many who have been active in the work, have grown old and laid aside the harness, or have passed away, and their mantles have fallen upon other shoulders, even those of the young men who are present to-day. What shall we do with them? Shall we not, like Elisha of old, pray that a double portion of the progressive spirit of our predecessors may be ours? We fear the tendency during the past few years has been for the young to shirk the responsibilities,—to leave the burden with the older members, being content with this, or, if not content, to stay away from the meetings rather than give their support. As the old earnest leaders have decreased in numbers, and the zeal has flagged with their waning powers, the society, instead of keeping progress with the times, has apparently retrograded. Fungous growths have made their appearance—sure indications of an unhealthy condition. There has been lassitude in all branches of the association work; many of our best men have stayed away, pleading that the meetings were not profitable. But during the past two years there has been an improvement,—a general feeling that all personalities that have been so prominent, and all selfish interests that have been occupying the time of the association so disastrously, must be relegated to the past, where they belong, that we must progress,—put more shoulders to the wheel from among our young men, and all push in the same

direction. Young men, the mantle is falling upon us. Shall we take it up? Saying each to himself, there is some part for me in this work. Ask ourselves what it is, and commence now to do it. The crying need of our state is to get our young men interested in something besides the drudgery of our labors. We look too much to the financial results, too little to the professional; not realizing that better financial results would follow higher professional attainments. This state of affairs has been owing, perhaps, in a measure, to the laxity of our dental law, which has admitted an influx of the offscourings of our neighboring sister states, breeding a slum that has overpowered our better instincts. This is now remedied, but will avail us little unless we get out of this slimy pool, stirring and agitating it by our efforts toward the light, by our studies and researches, our interest in the association, by our papers, discussions, and clinics, and our enthusiasm in this chosen profession, until this turgid scum shall disappear. The program of the session reveals several new features, prominent among them is a fine array of clinics. To obtain the best results, there should be a supervisor of clinics, to make a report of each case, and every clinic commented upon, fearlessly and impartially. Then there is the dental miscellany and quiz boxes, a feature that ought to bring out much wholesome thought. We would also suggest the formation of permanent committees on some of the subjects that are always of interest, such as operative and prosthetic dentistry, dental literature, microscopy, etc., whose duty it shall be, during the year, to follow out the line of study indicated by their various topics, and give the association at its next meeting the results of their investigations. We have in Indiana about six hundred dentists, five-sixths of whom are never seen in attendance at the meetings of our state association. I would further suggest the dividing up of the state into sections, and establishing several auxiliary societies, thinking it would be the means of awakening an increased interest in this valuable work.

DISCUSSION.

DR. MORRISON: It is a fact that the thing has resolved itself down to this point, that, if the association is to succeed, the young men must take hold of it. We believe every member, to carry out these ideas must make himself a committee of one. In regard to auxiliary societies: In Indianapolis we have a society that has

grown, and we have representatives here, to speak of organizing auxiliary societies in the north, west, east, south and central parts of the state. It would be well in these societies to have the membership unrestricted, so that we can take in outside dentists. Our society has done great good in that very way. We do not ask a man whether he fills teeth with amalgam or gold; or whether he is a quack, but take those who are congenial, and it is more of a fraternity and a better promoter of good.

DR. PATTISON: It seems to me that it is a good time to strike now. We have just had a new law passed, and much correspondence has been carried on between the state men and the association. I think the suggestions of the gentleman are very good. You will notice in all towns where dentists work in harmony and peace, more is gained than where dentists are at sword points. We should honor our profession in every way we can.

DR. WILSON: I think we could resurrect the East Indiana society without much trouble. I find it a good plan to go to different societies, as there is always something new, and you get many more good ideas. I think that auxiliary societies should be organized in different portions of the state as suggested.

DR. W. B. KNAPP: These thoughts have been present with me for a good while, that the young members should take up the work. While I do not think everything can be accomplished at once, it will eventually come. The idea of dividing the State into sections, as mentioned, grew out of the action of New York and Illinois State societies. I believe in dividing the State society into committees, mainly, each to work out some main line of thought. In order to accomplish much the masses must take hold and work.

CHALK TALK ON THE PREPARATION OF CAVITIES.]]

[WITH BLACKBOARD ILLUSTRATIONS.]

DR. S. T. KIRK said: When the Board of Examiners met I asked a number of questions, and as they have not been satisfactorily answered I will give them here. I will first take a central incisor. There are three points in the cavity to which I wish to call special attention. At the cervical wall the filling is very often defective, or at least there is a weak point there. No amount of filling will save the teeth if the cavities are not properly prepared. One big undercut should not be made. We

should get a good foundation at the cervical wall, but not go too deep. If the engine is used to bur out here, you are apt to bur out too much. It is very deceptive, and it is not best to trust your eye to determine the depth of the cavity at this point but use a hatchet excavator. Often the tooth substance looks hard, but proves to be soft. It is very often that dentists say the breaking away of the border at this point was due to the candy, or something of the kind that the patient had eaten, when it really was the fault of not properly preparing the cavity. Therefore, use a sharp excavator to cut it out. Another point is where the enamel and dentine join. Here we often find a minute line that the instrument will tell us ought to be removed. This is often the cause of that dark line sometimes seen around fillings.

Next let us take a cavity more on the front portion of the tooth. Some say they do not like to have the gold show, but I do not believe in saving tooth substance where the border is weak. He here cited a case where a young practitioner did not cut away enough of the over-hanging walls, and could not get the gold under them properly. He said: "I took a bur and cut away, and soon showed him how easy it was to perform the operation properly when he cut away enough of the upper surface."

Next take the proximal surface of a bicuspid. There are some points here to speak about. One thing should always be observed, never to leave a portion of the grinding surface that is liable to break. You will, perhaps, notice at the cervical wall, the border, although somewhat thin, forms a nice little groove, just what you desire to start the filling in; and it seems a shame to cut it out, yet this should be done, for it is liable to get broken off if you do not. At the cusps use a hatchet-shaped instrument that will cut out all of the decay.

In regard to the preparation of cavities and where the margin should be made: Now where there are two cavities in the proximal surfaces, one large and one small, you fill both at one sitting, and in a few years you find one good, perhaps, and that the other has failed. The reason for this is probably that the borders coming into contact, cause capillary attraction, and the fluids held there are instrumental in causing decay. I think the borders should be made out beyond where the teeth are in contact, and they will be self-cleansing. Again we often find two cavities in molars so close that only the finest

explorers will pass between them. There is also very often an underground railway which, if left, will cause harm.

DR. EDMUND NOYES: In large cavities in bicuspid, if the front plate of enamel remains, or is not quite broken away, it is the only place in operative dentistry that we ought to take a risk. This should be left as its removal may cause a great disfigurement; but circumstances will alter cases; for instance, you would not take the same risk in filling for a man who cared little whether the tooth was gold faced or natural, as for a young girl where it would cause a disfigurement, or, where the crowns strike square, and are liable to break, as where they strike at the sides. We are sometimes tempted to leave over-hanging enamel walls, but cut away until the border around the periphery is entirely solid.

It is a fact that the narrow and thin enamel is liable to be split off more than other portions, and the tooth is likely to decay around the filling; and there is no objection to removing all the decay that is liable to do harm in this way. There is often an exceedingly thin edge along the border, and it is hard to use a chisel small enough to cut away the decay and not injure the pulp. In many bicuspid, these three layers are exceedingly narrow, but out near the corners, a groove can be cut thoroughly and strongly, and there is where you should get retaining form. It seems to me that cutting with hand instruments is a good method. I think it certain that a portion of the delicate work can be better done with these. Points of danger are the corners of cavities not being cut out enough. In many instances this results from filling early, when really there is no decay, and only an enamel defect to be corrected. Such fillings should not fail if enough is cut away to make the borders solid. Where the cavity is small, as the one illustrated, it seems too bad to cut out too much of the good material. I think good practice will prompt the shape of the cavity where we have two fillings to be inserted. Openings can often be enlarged. By cutting off the contour, proximal surfaces can often be made more convex. Where the cavity is nearer square, as is often the case in molars, you can cut away more, and leave it more convex, by cutting away as near the neck as possible without impinging on the gum. Where the teeth are slightly enlarged at the neck and the space between them at the gum is increased, they should be wedged before filling; for it is

more desirable to get space before the operation is made at all. In smoothing down the borders of cavities, smooth them convexly, and not straight; for thus you will get a feather edge, which will not stand long. Permanence in filling depends greatly on how you finish the borders.

DR. G. S. SALOMON: Where the enamel is broken at all from the cavity, as is often the case near the cutting edge of the teeth, I cut it away entirely at the edge, and make the tooth about $\frac{1}{32}$ of an inch shorter, and make a groove on the cutting edge, thus getting better support for the filling.

DR. KIRK: There is one thing I cannot listen to without making some remarks, and that is this matter of retaining points. I have been used to speaking of them as an abomination, and think they are utterly useless in all cavities, and I have not used any in thirty years, and if I lived a hundred years I would not use them. I know the danger of cutting at the point, and the danger of cutting retaining points anywhere. I can make the whole filling, nearly, while one is cutting this retaining point. By the use of non-cohesive gold, placed upon the neck or border, and well driven, I can get better and more perfect adaptation than the average operator can with cohesive foil.

DISCUSSIONS ON ATMOSPHERIC PRESSURE AND ADHESION AS RETAINING FORCES.

DR. W. B. EAMES: I think the force of adhesion helps materially in the retention of artificial plates, as liquids have a stronger adhesion to solids than gases. "Dr. Richardson makes the plate chamber so that it excludes the air, and he says it is ridiculous to suppose that a plate can be made satisfactory without." You have all noticed, in taking an impression of the upper jaw, that after the adhesion of the tissues, it is hard to get the impression material out until the air is let in. I think this is due to pressing the impression up and displacing the tissues upward by the impression material, and when the adhesion of the tissues is broken, the material is prevented from leaving the mouth entirely by the tissues following the edges downward, and keeping a close joint until the air is admitted by raising the lip in front. Now we can utilize the whole space of the arch of the mouth by copying these entire conditions. If the plate is so made along the posterior line of the palate, when we attempt to

remove it the tissues follow down and it cannot leave the hard tissues far enough to come down farther than these tissues follow. When a denture fits so tight that the capillaries are ruptured in removing it, and yet the same set can be easily dislodged by raising the lip, it shows that there is something there besides adhesion. I claim that better results can be procured from no chamber. The reason that so many plates tip is because the plate does not extend up properly at the back edge. It should extend up farther here, into the soft tissues in order to get this tight joint. If you will look into the mouth you will see how far back the tissues will make a tight joint, on account of the hard tissues at the central portion of the arch and immediately back of this, it is necessary to get a tight joint here, or the air will be admitted where the tissues are hard, upon any pressure on the teeth, especially the centrals. But if the plate runs back and we get this tight joint here, as well as at the side of the ridge, it will resist the masticating force and the patient cannot bite hard enough to throw them down.

DR. CLAYTON: If we get perfect adaptation of two surfaces, it is difficult to separate them, if they have been previously moistened, as in two pieces of glass or two oil stones, they will not easily draw apart. I do not see why "air chambers" are made. They are an abomination. I have seen the tissues drawn down so much that the blood would start when they were scraped a little. I indorse what Dr. Eames has said about the air chamber. If nature was not good to us we would not have good results in making artificial plates. In taking an impression, examine the mouth to determine where to trim the model. If the mouth is hard in the centre, scrape so as to equalize the pressure over the hard and soft tissues. To get an equal bearing, we rely upon the adaptation of tissues to the surface of the plate.

DR. OTTOFY: I have been a good deal interested in this paper. I have not used an air chamber in a plate for over three years. I know of but one good use for them, and that is for 'cheap Johns' to place their advertisement in. I trim the model more or less all around.

DR. A. W. HARLAN: I think the impression often is not carried up high enough at the heel to retain the plate, by atmospheric pressure and adhesion both. Another fault is leaving the edges too sharp. They should be carefully rounded off. In trim-

ming, if you observe carefully the anterior line of the masseter muscle, you have a safe line to trim from posteriorly.

DR. W. H. STEPHENSON: My method is to scrape the impression along the line of the palatal spine and scrape the alveolar ridge slightly. From the model I scrape either side where there are soft tissues.

DR. L. OTTOFY: I make a special impression tray for each case.

DR. WEISELL: I make a thorough examination of the mouth first, then take the nearest fitting cup I have and if necessary trim it down to fit the case more perfectly. I use plaster pretty thin for impressions, as it will press the tissues up if used too stiff. I press the impression tray up with the right hand, and raise the lip with the left, then the same on the other side, to let any confined air out from under the plaster, and also to assist the plaster in covering all portions of the arch. I think the shrinkage of the rubber has much to do with the adaptation of some plates not being perfect.

DR. EAMES: It was said that uniform contact or perfect adaptation is all that is necessary. I say it is not all that is necessary. To obtain a proper bearing, the cast should be trimmed wherever the mouth is soft. The important places are at the angles, or tuberosities and at the middle of the posterior edge. I do not think the shrinkage of the material or expansion of the plaster is enough to do much harm. In regard to a high arch, I do not think it is any harder to fit a plate to that than a low arch for there is the same amount of surface on which to get good retention.

DR. J. E. CRAVENS: In regard to the hard ridge in the centre of the arch. I cut away the plate over this until it has something the appearance of a lower denture. I scrape off a little flat place from the impression, and think it helps to secure adhesion.

PRACTICAL MISCELLANY.

DR. D. L. OVERHOLSER read a short paper upon this subject. Among other things he said: Dentistry consists of science, art, theory and practice, and it is a mistake to ignore either. Some say that life swings on little hinges and this can be appropriately applied to dentistry. It is the little things that count. It is next to impossible to thoroughly fill a bullet-mould shaped cavity with

gold, hence a flat bottom and side of the cavity are of prime importance. In removing the decay, the diameter of the drill or bur may be greater than in shaping the cavity. Sand and emery paper disks are among the best appliances in dentistry and are much used now for the removal of some decay, cutting down the borders of the cavity and finishing down the filling. These disks can be made with gun wad punches. We have used the No. 315 mandrel and find it more satisfactory than any other for carrying these disks. Dentists can illy afford to waste their time and money on inferior articles. Several years ago I experimented with the Bonwill crown and found disappointment. Afterward the How crown was tried and also found to be unsatisfactory, but the Logan crown has proved a success. The right angle is an indispensable attachment to the dental engine. The majority of dentists spend much of their time in the laboratory with plate work. Part of the work is dirty and disagreeable, on account of a want of properly constructed vulcanite flasks. A year ago I attempted to remedy this evil, I procured a Star flask, but in closing this was not satisfactory, so we went to work and constructed one, consisting of three sections held together by long keys, requiring no bolts or nuts. It is much easier to remove the case from this flask than from others; and in all respects we find it a more convenient and satisfactory flask than any we have ever before tried.

DR. T. W. BROPHY: There was one statement the gentleman made in regard to making a flattened shaped cavity. I differ here and think it is not necessary since the matrix came into use; for the gold can be carried up, between the cervical border and matrix and held firmly until the metal is built up high enough to wedge itself.

LINING PLATES WITH GOLD OR FELT FOIL.

DR. W. H. STEPHENSON: Since the introduction of rubber in plate work, many cases have given much trouble, to both patient and dentist, by the peculiar conditions arising after a few months wearing the plate. The mucous membrane becomes a dull red color and spongy, with little white ulcers appearing in different parts of the mouth; also dryness of the throat, causing the patient to swallow almost continuously, which at times is very painful, a continuous burning sensation all over the mouth. I have been studying the cause and experimenting until I am ena-

bled to give some information that will help relieve the trouble to a great extent. Rubber being a vegetable compound, when worn in the mouth becomes heated, and as all the air is excluded from beneath the plate, an abnormal condition of the mucous membrane is produced, causing inflammation. In this condition the mercury contained in the coloring material of the rubber, is absorbed, causing mercurial poisoning of the mucous membrane. It is very hard for some persons to believe that such a small amount of mercury could do so much harm. In Watt's practice of medicine he records where a man took a "blue pill," and the man who slept with him was so susceptible to mercury that he was salivated.

To show how easy poisons affect the system I will state two cases I have in view. One a physician, who told me he could not carry ipecac in his pocket case without causing sickness or nausea. A lady passed within ten feet of a poisonous vine and she was poisoned. Patients that have been salivated, and those who have had nursing sore mouth have trouble wearing rubber next to the mucous membrane. To remedy this I have used a metal lining between the plate and the tissues. The lining of plates is not a difficult operation, but I have found some points that need guarding, and I give them here, hoping it may help others who have not been successful. After the flask is ready to pack, cut the rubber as usual and pack in position. Wash out the piece of muslin that lies between the rubber sheets and place it over the rubber in the flask. Take a piece or sheet of No. 4 tin foil and press over the impression of the mouth, so that the rubber that comes through the cloth will not stick to the cast, close the flasks tightly together. Now take them apart, pour water on the muslin until it is saturated, then remove it, being careful not to displace the rubber in separating. Cut off the surplus around the edge of the flask. In using gold, cut it the shape of the palatal surface as near as possible, and have the edges lap at least one-eighth of an inch, then cut strips that will lap well over the edge, fitting up closely to the upper edge and lapping over the top of the border, being sure there is enough rubber under the gold to cause a pressure sufficient to hold the gold in place. In using felt foil, before closing the flask with the foil in position, place another piece of No. 4 tin foil over the cast as you close the flask before vulcanizing. In using felt foil, never use the thick or fibrous

pieces, as they will not adhere to each other in vulcanizing, they also allow the rubber to penetrate and come to the surface, making an imperfect piece of work. In burnishing it rolls up and comes off the plate. By using the thin, compact pieces, all this difficulty will be avoided. In flasking, be sure that your cast stands up so there will be no deep fissures to pack at the upper edge of the cast under the lip. Vulcanize with dry heat, or place the flask uppermost when using other vulcanizers. I have had good success in every case, and I think by following these directions you will receive the same reward.

THE PERMANENT FIRST MOLARS.

DR. A. J. SMITH read a paper which was as follows :

“There are perhaps no teeth about which there has been so much said as the first permanent molars ; and there are none more in need of further consideration, because there are none more valuable and none more neglected. My subject, therefore, although old and thread-bare, is one of importance ; but whether what I say is of importance is another thing. Being young in the profession, I do not presume to advise what should be done with these teeth in their different stages under my care ; and if any one has a more conservative course for them, I shall be pleased to hear it, for there is no operation in the practice of dentistry that so moves my sympathies as the extraction of these teeth for children.

First permanent molars coming under my care soon after the second permanent molars have erupted, I fill, if they give promise of lasting three or four years, telling the patient if we can save them only that long, we may then know of some better way of saving them longer ; and if not it will prevent the tooth back of it from tipping forward, as it would if the first molar had been removed. There are exceptions to this : If the nerve is dead, and the periosteum and gum are inflamed, I consider them precarious subjects, and extract at once ; or if the teeth are already crowded, and some irregularity is present that their room will correct, I consider extraction indicated. The treatment of the first permanent molars after the second ones have erupted is an easy matter compared with the treatment of them before. These teeth are so imperfect and incomplete in structure as to make them prone to decay, and they appear at the age when the child

has barely emerged from infancy, and still requires the gentle handling demanded by tender years. The child's first introduction to the dentist is brought about by the aching of one of these teeth. A child was brought to me a short time since with this molar too far gone to save. This was the child's first acquaintance with the dentist, but he had a very distinct recollection of meeting a physician only a few days previous, who mistook the mate for a temporary tooth, and in attempting to extract broke it off just below the gum, leaving a live nerve exposed, and the boy with a life long horror of having a tooth extracted. I advised the parent that this tooth was beyond redemption, and the only means of relief lay in extraction. The boy's courage here failed, and he would not have it out. I did not wonder at this, and I told the little fellow I would put something in to keep it from hurting for awhile, and see if we could possibly save it. My object being only to gain the boy's confidence and get both him and the tooth in better shape for the extraction. I put carbolic acid in the cavity and a rubber ligature on the neck of the tooth, and dismissed him. The next day he returned, believing the tooth could not be saved, and seeing it was somewhat loosened, he was persuaded to have it out. The first permanent molars giving trouble by the seventh or eighth year I endeavor to save until the ninth or tenth year, if I can get them before the nerves die, as frequently the deficiency of solidifying material will have been supplied by this time, and the tooth may then be permanently saved; and if not, the child is better able to stand the operation, and can better afford to lose it then than sooner, and it will yet be in time to allow the second molar to come forward bodily, instead of tipping. Yet there are cases like this in which there is no chance to give even temporary relief, and extraction seems the only recourse, and in such cases I consider it the part of kindness and humanity to use an anæsthetic, as childhood possesses a thorough immunity from the dangers of them. Besides it is desirable to avoid severe pain with children, that we may not create a life-long dread of dental operations, which is so often done to the keen remembrance of suffering in childhood. There is no definite rule for the extraction of the first permanent molars. What seems far more needed is to instruct and educate the parents to have their children's teeth cared for in time. Many parents think no attention is necessary to the temporary

teeth, and know nothing at all about the first permanent molars, until they are badly decayed and aching, and are informed by the dentist that they are permanent teeth. The almost total lack of dental literature, giving instruction on the most important of all subjects that effect the health and comfort of the people, is not altogether creditable to the dental profession; for it is to the dentists that people must look for right teaching along this line. The giving of this instruction may seem to some an endless job for which they would get no pay. So it may seem at first thought; but if each of us would go to work earnestly, and embrace each opportunity of imparting a few words of advice to parents, in a very few years we would see our progress. Not only by the better teeth of children, but by a better appreciation of our profession by the public generally. Our relation to those we serve and to the public should be one of so much confidence, dignity, and learning that mothers will come to us for instruction to prevent bad teeth in their children, that shall reach their own habits prior to their children coming into the world. Our patients should be made to feel that our advice is worth as much as our skill. But this feeling can be established only subsequently to the education of the people to an appreciation of its importance."

DR. W. B. EAMES: I think if any tooth is entitled to conservative treatment it is this one. In early teaching I thought that it was a kind of useless member, but in later years I learned that we should save them whenever it was possible, for this reason, at the age when they are presented, these teeth contain a big pulp and an apical foramen which is large, and we do not get strangulation of the pulp. Even after hyperæmia the pulp may be saved if other conditions demand. This tooth should be saved at least until the first bicuspid is well in place, and the second has erupted, so that it will furnish a good masticating surface, and thus prevent the habit of masticating with the front teeth. In short, do not extract until the second molar has shown signs of eruption. With young children especially, we should be careful in our procedure and gain the confidence of the child by a careful removal of the decay and reducing the inflammation as much as possible. Generally after the second sitting we can apply the rubber dam. I use iodoform mixed with some essential oils as a dressing. This placed over the pulp acts kindly, and reduces the

inflammation causes an absorption of the hypertrophied tissues, and in forty-eight hours the tooth can receive the capping. Use a napkin and saliva ejector. Place the medicated cotton over the pulp and pack cotton around this until the cavity is filled, then touch this cotton filling with sandarac or some such varnish, carried by means of a cotton pellet in the pliers. This retains it firmly in place.

DR. W. B. KNAPP: I think there are times when it is justifiable to extract the sixth year molar. I think this matter of trying to save it can be overdone. I have had some cases where I was afterwards sorry I did not extract. If we could have the care of the child at the proper time, it would be different, but they come to us at all stages. The teeth we have to contend with are often crowded in the mouth, chalky in structure, and the saliva is ropy. What shall we do here? This tooth is certainly in a bad shape. If I can I like to save the sixth year molar until there is a prospect of the second molar coming forward, yet, if I must extract, I like to do it before the second molar comes through.

DR. T. W. BROPHY: I would like to say a word about the preservation of the sixth year molar. It is a fact that a larger per cent. have been extracted than should have been. We see malposed jaws, and even disfigurement for life through this practice. We should make our best effort to preserve them. They are really the keystone to the dental arch. Fill them even if there is but a little left of the crowns. It is well to make the effort and do what you can, then advise the parents to come again, so that you can renew with plastics. The teeth can usually be kept for years in this way.

DR. J. G. REID: The early training of the child to use the tooth brush should be encouraged. Parents are very negligent in this direction; and not one in five hundred advise the use of the brush. If the child is thoroughly taught this, it will become a habit and it will take good care of its teeth. The mother should be persistent in this and get the habit formed. I know this to be a fact, for I have a little boy of three years, and he calls for his tooth brush regularly. He was taught it when the incisors first came through and to-day thinks as much of this as of going to breakfast.

DR. LOUIS OTTOFY: I think the profession has reached such

a stage that we should discuss how to save the sixth year molars rather than should they be saved. We get the greatest force where the first molar is located and for that one thing this molar should be saved.

DR. W. B. EAMES: It does not only have the largest masticating surface, but is situated at the strongest part of the inferior maxillary, and on a line with the masseter muscle.

DR. W. B. KNAPP: I would like to ask one question. Why the fissures in crowns of this molar are apt to decay quicker than in other teeth? There ought to be a scientific answer to the question.

DR. T. W. BROPHY: The first permanent molar is erupted at about the sixth year and is not calcified to the extent that the others are.

DR. EDMUND NOYES: They show later, at twelve or fourteen, that they are not so bad as you expected. They have been recuperated. I am glad to hear a paper that advocates saving the first molar. If you do not use gold, do not use amalgam but rather tin.

DR. A. J. SMITH: I think dentists should try to arrive at some plan by which we can give the patients advise in this matter.

ANTISEPSIS.

DR. M. H. CHAPPELL read a paper upon this subject which was as follows:

Sepsis means putrefaction.

Antisepsis, to prevent, arrest or destroy germs, chemical changes or putrefaction.

Putrefaction.—The disorganization of animal tissue, or the formation of new organisms, microscopic or otherwise relating to corpuscle life.

Fermentation.—The action by chemical reagents as a result of light, heat, etc., and the development of corpuscle life, bio-plasm, in vegetable substances. Antiseptic remedies are used to destroy, arrest, or prevent any of the conditions which would result in inflammation, suppuration or putrefaction. The terms used, such as putrescence, disinfectants, septicæmia, etc., must all be duly classified and used in their proper order. Antiseptic treatment in wounds is to prevent that condition of the tissues in its process of repair, either from the ravages of specific inflam-

mation, or from what we formerly called granulation, inflammation which did not throw off laudable pus, and to arrest the process of disorganization, putrescence, gangrene or the formation of mephitic gas, which is so easily detected by the smell. Therefore, the antiseptic treatment is the rational medication of wounds, so as to prevent inflammation and restore the part by promoting the organization of lymph into formative, or reparative tissue. This is done by the use of agents that will prevent proliferation of micro-organisms. Or if developed and manifesting their presence, resulting in fever of the parts, leading to inflammation and ulceration. Antiseptic remedies are of various degrees of strength; some are restrainers, others destroyers; hence some germs may be developed but rendered sterile by low strength preparations, which are aimed as preventers and not destroyers. Many of these agents are pleasant, not powerful in action, but limited in their powers of restraining, while others, in no way offensive, are powerful in purpose, and satisfactory in results.

The germ theory in the treatment and management of wounds, as well as in disease, is the king of theories in the healing art to-day. Germicides are the antiseptics for us to consider, investigate and practically apply. The surgeon who now takes pride in his profession, will not attempt to perform any surgical operation, unless he has the means available that are essential to prevent germs coming in contact with the wound, either by his hands, instruments, or other means, and all these must be antiseptized. In the treatment of pulpless teeth, putrescent canals, alveolar abscess, pyorrhœa, etc., we have a large field for practice. There are but few, if any, mouths not daily offering, in some parts, conditions for the development and growth of germs. These germs, however, may be of animal, corpuscular, or vegetable origin, owing to their cause. It is known that vegetable substances can be anæsthetized, and held dormant as the highly organized corpuscle life, and hence, the same strengths of antiseptics act only as restrainers, and germs may regain life. I will present but a few of these remedies as time is limited.

Bichloride of mercury is valuable as a germicide. I use it in different strengths and it is said to be a restrainer, and even destroyer, at $\frac{1}{60000}$. For irrigating purposes, such as washing out with syringe, $\frac{1}{10000}$ to $\frac{1}{30000}$ strength is required. In dental use, I

irrigate with syringe all mouths that may be affected with putrescence. Rain water, recently boiled, or distilled, is required for solutions. For carious cavities the $\frac{1}{120}$ solution is used. In putrescent canals irrigate with a $\frac{1}{1000}$ solution, being careful in exploring that no debris is forced through the foramen, and if a discharge be present it should not be checked. Pack the cavity with borated cotton saturated with the solution and fill the mouth of the cavity with oxyphosphate. In pyorrhœa, cleanse by removing all extraneous substances, then apply by irrigation with a warm water solution of $\frac{1}{1000}$. The stage of disease and its character will, in some cases, indicate some remedy of different properties such as iodine, sulphuric acid, etc. Carbolic acid possesses varied properties, escharotic, germicide, disinfectant, etc., in accordance with the strength used. When we desire a line of demarcation, in cold abscesses, or destroy the germs therein, the full strength is required. But as a germ restrainer, a $\frac{1}{30}$ solution will be sufficient either as a disinfectant or antiseptic.

Peroxide of hydrogen is a wonderful effervescent agent when it comes in contact with pus, blood or saliva. In cleansing, or freeing abscesses or putrescent pulps, of all pus, it is valuable. Iodine in tincture is not only germicide, but the most powerful resolvent stimulant known. It promotes the process of resorption of the waste tissue, and facilitates the leucocyte scavengers in the blood to seize and destroy germs or pabulum that cannot be formed into protoplasm. It promotes a flow of organizable lymph for provisioncial tissue. In full strength it is a powerful escharotic, while a tincture, and even in solution, the resolvent stimulant qualities are valuable. Sulphuric acid is a valuable agent in the mouth. In scaling and polishing teeth I use the aromatic solution to cleanse all the carious ends of enamel rods, when the teeth are attacked with green stain. In children's teeth, where the mucus secretion is vitiated, caries white, a valuable daily wash is $\frac{1}{100}$ solution aromatic sulphuric acid. Iodoform is an excellent dressing for putrescent canals. Benzoic acid I use in form of borated cotton for packing and other dressings. Sanitas, eucalyptus and others are mild and pleasant germicides.

DISCUSSION.

DR. A. W. HARLAN: The subject is different from that announced, "The uses of Antiseptics." They may be twins, but

they are not the same, so I am somewhat puzzled to know just where to begin the discussion. I thought it might be well to state some conditions where we might prevent sepsis or any allies of sepsis. The essayist incorrectly defined putrefaction. Putrefaction consists of a micro-organism at the beginning, and without it we could have no putrefaction. A microbe is a minute organism which is found at the beginning of putrefaction every time. As Dr. Black has said, meat does not spoil, but microbes spoil it. I think this true of all cases of putrescence. In the manufacture of alcohol, it is the yeast plant microbe that produces it, or the mother in vinegar is necessary to make the change complete. We do not have fermentation by chemical means. It is hard to separate antiseptics, disinfectants and micro-bicides, because a true disinfectant agent destroys both germs and spores. A chemical disinfectant, as charcoal, will not destroy them. So the term disinfectant, which covers all drugs and medicines that destroy microbes, is the one we should use. We need these disinfectants and antiseptics in roots of teeth, cold abscesses, pyorrhea alveolaris, in cavities of the living teeth, in the antrum, diseases of the bones, thrush, and other pathological conditions of the mucous membrane of the mouth. We need these, as we have stated, and not a chemical disinfectant as iodoform. I do not believe it is safe to use bichloride of mercury, one part to the thousand indiscriminately. I will say in this connection that one-thirteenth of a grain has produced ptyalism; and I do not believe solutions so strong as one-twentieth should be used. It is not safe. With reference to bichloride solutions, they decompose in light. A convenient way of using this drug is to dissolve it in peroxide of hydrogen, as suggested by Dr. Black and myself. I make a solution of $\frac{1}{1000}$ bichloride of mercury, and combine this with equal parts of peroxide of hydrogen. I prefer it in this way as it is safer and I think better. It is better for a mouth wash. Carbolic acid is anæsthetic, antiseptic and disinfectant in the degree of penetration only. If you apply the crystals you destroy life as far as they penetrate, but beneath this there is no effect, hence the germs beneath, when the covering is removed, will be able to spring into life and destroy the tissues. It is better to use the bichloride and others in their proper proportions. In reference to the treatment of pulpless teeth with a ninety-five per cent. solution. Just what a pulpless tooth is, hard to define.

If it be a case where the pus is beyond the apex, and there is no outlet through the natural channel, carbolic acid is the worst agent you can use. If there is an outlet use carbolic acid combined with any of the oils. There is no objection in such a case. I prefer, as a microbicide, some ætherial oil that is penetrating, and that will be potent as oil of wintergreen, sassafras, etc. They are preferable to carbolic acid. If iodine is used, an aqueous solution is far better than the tincture. Iodine is soluble in water in about the proportion of sixty-five hundredths. Aromatic sulphuric acid will not destroy carious bone, nor destroy, nor dissolve salivary calculus. It is not a true acid, but more nearly an ether; and in full strength if a tooth be dropped into it, it does not dissolve the calculus. If you place necrosed bone in the acid, that bone will weigh just as much when removed three months afterward. I think the teaching is wrong and that men have fallen into an error in accepting this statement without first demonstrating its truth. Aseptol or sozoic acid is clear, non-irritating, feebly escharotic, yellow and soluble in water. It is made by the action of sulphuric acid on carbolic acid. Its free solubility makes it far superior to carbolic acid. Even in a two per cent. solution between the gums and teeth in the pockets of pyorrhea, it thoroughly cleanses them, and reduces their size. While I cannot say that it is twelve times more powerful as an antiseptic, than carbolic acid, it is one hundred times more powerful as a disinfectant. Put saliva on a glass slide and drop some of this on and see the result. This is the way I determined it to be a great disinfectant. It can be used as a stimulating disinfectant.

DR. EDMUND NOYES: Fermentation and putrefaction are the result of micro-organisms. The inference is so plain that we must destroy the microbes and be careful that instruments never carry these into places where we do not want this action set up. The principal difficulty with aseptol is that it limits its own action. An objection to its use in pulpless teeth is that it clogs up the pulp canal and stops the drainage. When there is a discharge of serum it may be used if there is perfect health beyond the foramen. The practical difficulty of its management in pulpless teeth can scarcely be over estimated. The canals we open are generally so aseptic that the least bit of this pushed through is liable to cause trouble.

DR. LOUIS OTTOFY: Bichloride of mercury is the principal

substance on which we rely in cases of implantation. I do not believe aseptol is beneficial. One of the best antiseptics for a wash is hydronapthal, and it is one of the pleasantest we can use.

DR. GARRET NEWKIRK: One word about eugenol. It is the active principle of clove oil. It is a better disinfectant and pain obtunder than clove oil. It is penetrating and unobjectionable. I am now using eugenol, two parts, cinnamon oil, two parts, and carbolic acid, one part. I think it checks the escharotic action of carbolic acid. Now, regarding this matter of care in opening pulp canals. I never open them without previously flooding with antiseptics, so that they follow the instrument wherever it goes, and you get no trouble beyond. We often use broaches that are too coarse, and then they cause a piston force which is not desirable.

DR. T. W. BROPHY: I think many dentists are too liable to use broaches that have not been as thoroughly cleansed as they should have been. Bathe them in a germicide always.

THE CLINICS AND EXHIBITS

were of great interest.

DR. MERRITT WELLS placed some gold fillings in proximal cavities without retaining pits.

DR. A. W. HARLAN treated some cases of pyorrhea alveolaris.

DR. E. B. CALL placed one of his seamless gold crowns in position on a lower molar, and demonstrated the working of his new band matrix.

DR. G. S. SALOMEN demonstrated the use of the electric mallet by filling several large and difficult cavities.

DR. T. W. BROPHY demonstrated his matrix, using gold and tin combined as a filling material.

DR. J. E. REID demonstrated the Herbst method by filling a large cavity in a lower molar.

DR. GARRETT NEWKIRK demonstrated his method of filling small and tortuous root canals with chlorapercha.

DR. LOUIS OTTOFY implanted two teeth, with seemingly good results.

DR. WISSEL exhibited his new style of artificial teeth.

DR. S. T. KIRK illustrated the use of non-cohesive gold.

DR. J. E. CRAVENS combined cohesive and non-cohesive gold foil in filling.

DR. EDMONDS demonstrated the workings of his new automatic dental plugger.

DR. C. C. CARROLL demonstrated his method of working refined aluminum.

The Detroit Electric Dental Motor was also exhibited.

ILLINOIS STATE DENTAL SOCIETY.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by L. P. Bethel, D.D.S.]

(Continued from page 322.)

DIAGNOSIS OF ORAL TUMORS.

DR. T. W. BROPHY read a paper on this subject. He said: The noun tumor is derived from the Latin verb *tumeo*, to swell, to become tumid or inflated. A tumor, therefore, is a swelling or puffing up of the tissues and may manifest itself in various forms, as a phantom-tumor, an hypertrophy of muscular tissue or an abscess.

In its more restricted sense, however, and in accordance with surgical usage, a tumor is a swelling caused by some form of new growth.

The late Wm. H. Van Buren defines a tumor as "a local limited enlargement, taking place at any part of the body, and consisting in its substance of a new outgrowth of tissue which has no physiological purpose in its growth." A tumor is said to be a purposeless neoplasm, but a tumor is not necessarily a neoplasm. The literal meaning of the term tumor is not accepted by surgeons, as I have previously stated. We can not place abscesses, phantom tumors, hernias, and kindred enlargements among the list of tumors, *i. e.*, if we accept the statement that a tumor is a new growth of tissue without physiological purpose. An abscess is a circumscribed cavity containing pus, which pus is dependent upon a preceding inflammatory process.

Tumors may be studied from different standpoints and under two heads, viz.: histological and clinical. Their etiology, to a great extent, is still wrapped in obscurity. To say that a tumor has its origin from a proliferation of cells is but a feeble effort to explain a condition not well understood. Cohnheim has advanced an ingenious theory, holding to the belief that true tumors can

not originate otherwise than in an anomalous excess of cells in the embryo.

Cohnheim says: "There may be produced in an early stage of embryonal development more cells than are necessary for the construction of a certain part, so that a certain number of cells remain superfluous. Their number may be small but they possess great proliferating power on account of their embryonal nature."

According to this author these supernumerary embryonic cells are the origin of all subsequent growths in the form of tumors any time during life. The great number of congenital tumors met with, such as vascular, dermoid and dentigerous cysts would seem to verify this assertion, but the views of Cohnheim are not generally subscribed to.

The clinical history of tumors enables the surgeon of experience to correctly diagnose them in nearly all cases. The microscope should be employed, however, to settle the character of the growths.

For surgical consideration, tumors are divided into two great classes,—benign and malignant. A benign tumor is an innocent growth of local origin, and when removed is not likely to recur. Its structure is homologous.

Malignant tumors tend towards a speedy destruction of life. They seem to depend to a certain extent upon some constitutional taint or hereditary predisposition. Their structure has not a counterpart among the normal tissues in which they are situated. They are heterologous. They invade the adjacent tissues and impair the general health. Malignant tumors have a tendency to develop in various parts of the body and recur after removal. They not infrequently recur in tissues quite remote from those from which they have been removed. They originate not infrequently from cicatrices, warts, moles and other anatomical imperfections.

The oral cavity is subject to tumors varying in number with the tissues of which it is formed. Prof. James E. Garretson, whose lectures and clinics I had the good fortune to attend when a student at Philadelphia, indelibly impressed upon me the importance of method in making a diagnosis, and the necessity of taking up the various conditions which may lead to the formation of a tumor, and step by step, by both subjective and objective

signs, and by manipulation, determine the character of the growth.

A patient presents himself for treatment, having a tumor over the anterior surface of the superior maxilla. There is a marked prominence. What is the cause of this abnormality? What is its character? It may be active pericementitis, an alveolar abscess, an odontocoele, an angioma, a dental exostosis, an osteoma, a fibroma, or a distension of the walls of the antrum in consequence of an accumulation of fluid in that cavity. It may be a cancerous growth, or any other form of oral tumor.

To proceed methodically in making a diagnosis we must consider with great care the exciting and predisposing causes of the affection, and keep in mind the anatomy of the parts.

The anatomical points of interest of the superior maxillæ are the alveolar processes, the malar processes, canine fossæ, the tuberosities, the nasal walls, the great maxillary sinuses, and the palatal plates. What is the character of this tumor over the anterior portion of the superior maxillæ? Is the enlargement due to active pericementitis? The teeth are sound, they are not sensitive to pressure. A tooth does not seem longer than its fellows when the jaws are closed, nor is occlusion painful. The enlargement is not due to active pericementitis. Is it an alveolar abscess from which pus has burrowed through the anterior alveolar plate and filled the canine fossa? The arch contains its full complement of teeth, all in a healthy condition. Fluctuation is not observed. The exploring needle does not evacuate pus. The swelling is not caused by an alveolar abscess. Is it an odontocoele? An odontocoele, as its name implies, requires an unerupted tooth for its nucleus. As before remarked, the denture is unbroken. We must remember, however, that an odontocoele may have for its origin a supernumerary tooth. On introducing a sharp probe or an exploring needle we do not observe the characteristic ring of the enamel which follows the stroke of the steel. A tooth is not in the growth; it is not an odontocoele. Have we before us an angioma? An incision causes only ordinary hemorrhage, while a vascular tumor bleeds profusely where the walls of its vessels are divided. It is not, then, an angioma. Is it a dental exostosis or an osteoma? The sharp probe enters into its substance with little resistance; it is not an osseous growth.

Since fibrous tumors seek a region for development in prox-

imity with bones possessing much cancellated structure, and appear more frequently upon the maxillary bones than elsewhere, we may have in this case a fibroma. An oral fibroma has its origin from the periosteum, and is due to a morbid condition of the fibers of that membrane. It may emanate from the peridental membrane which has been in a state of irritation of dental origin. Not infrequently have I met cases of fibrous tumors of the jaws the initial lesion of which could be easily traced to a pericementitis. A fibroma may grow to enormous proportions, and by pressure on the osseous tissue cause its absorption. A fibroma may become indurated and in some instances it has the feeling of bone. Moreover, the sharp probe enters it with difficulty since the mass is tough and apparently cartilaginous in structure. We have not here a fibroma nor an epulic tumor which has many characteristics of the former. Is this swelling due to a bulging of the walls of the antrum in consequence of an antral abscess? What are its symptoms? Dull, steady pain, a sense of fullness on the affected side, and many times a diseased pulpless tooth as the origin of the lesion. When the natural opening between the nasal cavity and the antrum is closed the osseous walls may become thin by absorption and bulge out to a great extent. When the natural opening is not closed the fluid escapes readily into the nose, especially when the patient lies on the well side the fluid escaping profusely into the nasal cavity. Fluid has not found its way through the anterior wall of the antrum to cause the bulging. The antrum is not diseased.

We might in this manner consider all explainable tumors, hypertrophies, puffings, etc., and exclude them all. What, then, shall our diagnosis be? The origin of this growth which has occupied so much of our attention is not found. A growth which cannot be proved not to be a cancer should be denominated a cancer, and treated as such. Are there any symptoms besides those mentioned by which we may fix our diagnosis beyond question?

There is a proliferation of epithelial cells in an epithelial cancer, and later the cells break down producing an ulcerated surface. The odor from this condition is pathognomonic of the disease. This odor cannot be described, but when once familiar with it, it cannot be mistaken for any other. The treatment is a prompt and thorough removal of the tumor by surgical operation.

DR. BLACK: There is no more difficult subject to talk or write about than the diagnosis of oral tumors. It is difficult for one man to tell another how to diagnose any one disease. Observation is the principle mode of learning diagnosis. The diagnosis of exclusion is sometimes wonderful. A man came to me and said a little sore was giving him trouble. He had excluded everything and still the sore was persistent. He did not think it cancer as it was not specific. Upon examination I found in the mouth an ulcerated spot on the mucous membrane and opposite this was a sharp cusp of the third molar, that kept irritating it. There was the trouble and he had not excluded that. We will have to examine and re-examine, in order to find all the conditions of the trouble. These sores, epithelioma, are often caused by sharp corners of teeth. The epithelioma occurring about the mouth and lips, outnumber all cancers combined. Hence it is a very important subject. Another case was where the induration was as large as a quarter of a dollar. The sharp corner of a tooth had caused it, and after extraction the place healed, but it took a long time to get well. While these cases may prove to be epithelioma, we must exclude all these things, and if taken in time they can be cured. We should be very careful in our diagnosis. A physician once sent a fibroma tumor from the uterus for a microscopic examination. It proved to be nothing but a blood clot. You had better make a great many mistakes and use the knife too often than let one case of epithelioma go too long. Epithelioma travels by the lymphatics and when it begins in this way, the patient is beyond help. Epithelioma is a proliferation of epithelial cells. Tissues are eaten up and exfoliated, and when it reaches deep in the tissues, ulceration results. When these cells work off they pass into the vessels and clog them, there the epithelia is transplanted and more trouble results. In no case of death from cancer of the stomach has the liver been free from these cells, for the reason above stated, hence the importance of early diagnosis. The question has been asked, why hereditary cancer occurs in the same location. I do not think it is transmitted with any certainty to any particular locality. At the pyloric orifice is a common place for cancer of the stomach.

DR. CHAPPELL: I wish to call attention to a case that came under my observation. A cousin came to my office, and although

nineteen years of age, had the left temporary first and second molars still in the jaw, but they were somewhat loose. He wanted them extracted. I took them out. About eight months from that time I saw him again. The jaw was swollen, in one place to about the size of a hickory-nut. After carefully examining it I decided that it was an odontocoele and wanted to operate, but he would not consent to it then, but has since been obliged to and had to lose both the permanent first and second molars. The swelling disappeared but left a deformity.

THE USE OF THE MICROSCOPE IN PROGRESSIVE DENTISTRY.

DR. L. L. DAVIS, of Chicago, Ill., read an interesting paper which in substance was as follows:

The microscope, after being long regarded as a toy capable of affording only amusement, is growing in importance and usefulness every year until there seems to be no limit to its usefulness both in the professions and the trades. It is my purpose to show the necessity of this instrument to the dentist. None other can compare with it in the discoveries made by its use and the achievements of the men best known to the masses have been with the microscope. Even ignorant, unlettered people know of the labors of Pasteur and Koch, and what dentist has not heard of Miller, of Black and of others in our profession, who make it a special study.

The microscope has unveiled to man many mysteries and beauties of nature, to which he had so long been blind. Yet many fields remain open for research, and permanent fame awaits the successful seekers after knowledge, in this attractive branch of study; and the microscope is to become one of the prime instruments in the education of future generations. Anatomy, with all its attractions and achievements, is left far behind microscopy in the race for highest knowledge. The surgeon who sees in the face not only the lines, angles, prominences and depressions forming the features, but traces beneath the surface the nerves, arteries and the muscles with their attachments to the bony frame, may feel a just pride in his superior knowledge. But what words of mine can express the feelings of the microscopist as he takes that nerve, that artery and that muscle fiber and resolves it into the most minute and primitive cell structure until he is almost able to grasp that great principle called life.

An excellent and able scheme for post-graduate study has been prepared and gone forth; yet could I so influence the profession, I would have every man equipped with a microscope as a necessary adjunct to all his future work. To whom does dentistry owe its greatest honor? Is the mechanic, with his wonderful skill in restoring lost organs; to the operator in repairing the ravages of decay; or to the man who, by painstaking study, has placed it within our power to prevent disease.

The "germ theory" has received such strong indorsement from all thinking men that it stands firmly and resists the puny attacks of those who from want of education, or from their natural surroundings can believe only what seems possible to them, and thus give us a "bug" theory. You are all familiar with Dr. Black's experiments in cultivating germs, or fungi, to be forced to acknowledge that something does develop from a very small beginning, and the microscope shows that small beginning to be a minute rod or ball, with the property of reproducing its like in places favorable to such growth. What blind seeking in the dark, what vague theorizing would there be, had we not the microscope to aid us.

A knowledge of physiology is essential to the study of pathology, and in dentistry the minute anatomy of tooth structures should be as familiar to the operator as the shape of each individual tooth, as also the changes in such structure by disease.

Only a few years ago the number of medical and dental colleges requiring the study of microscopy, could be counted on the fingers, but to-day no college of repute slight its study. That a student shall become so versed in histological study during the short time spent in college, as to prove an expert, is no more expected than is his study in any other branch, but such a foundation should be laid and the study made so attractive that his after life may prove the efficiency of the teaching.

The University of Michigan was among the first to recognize the importance of the microscope in medical study, and slowly but surely the other colleges followed in her wake, then the dental students were brought into action and again the colleges responded.

The Chicago College of Dental Surgery has from the beginning recognized the value of the study, and by the stimulus of Prof. Black's teaching is to-day the first dental or medical college

in the world to have in its equipment a complete apparatus and laboratory for the furtherance of bacteriological investigation.

While practical methods of filling teeth are of paramount importance to the dentist, and there are those whose thoughts may give vent to such expressions, as "what do I want to know about something I can't see without a spy-glass," "tell me how to fill teeth better or make a better fitting plate, that's my want." To those practical men I say, *you*, you are the men I am looking to, to receive the benefit of this great study.

The use of antiseptics and disinfectants will aid you not only to be more sure of your operations on the natural organs, but will place within your reach the means of securing the best results from artificial substitutes.

Then let me more earnestly impress upon you the importance of the microscope in your every day practice, let your relaxation from professional duties find pleasant occupation in striving to discover more perfect theories for the causes of diseases, and your efforts bear fruitage in the advancement of this most wonderful of all instruments, the microscope.

It is not my intention to lay out for you the plan you should pursue in carrying on this study. Nor am I here to discourse on the merits and demerits of the many text books on this subject. Men in this, like all other fields of research, have ideas and theories of their own, and the one peculiar feature of this study is that *faith* is not the most essential qualification for its progression. Let a man doubt every theory he reads, till his own eyes and reason have compelled him to give assent to its truth or show its utter falsity.

To the young men of the profession, let me say, there is no field so wide in which to carve out name and fame; to the older members, weary with the strivings of a busy life, in no other line of intellectual development will you find so fascinating and pleasant occupation; and to those in the prime and vigor of manhood, it will prove a valuable ally in the good cause for which you are striving.

Excelsior then be your motto. Lift high the banner to the breeze, and as the moving army presses onward and upward, let every man make use of every aid to place his loved profession upon the pinnacle of fame.

DR. T. L. GILMER: This paper is the first that has ever been

presented to the association on the subject, and is of special interest, as there are so many things in dentistry that need illumination. There is something very attractive in the microscope to some, and again there are those who believe we will not become better fillers of teeth by the use of the microscope, and cannot take time for microscopical study. It may be said that the mechanical part of the work can be done afterward and it is therefore of little consequence whether enamel tissues are embryonic in character or otherwise. Its use is not for filling teeth, but we call ourselves professionals and therefore the importance of familiarity with this instrument. If we are classed as a scientific body we should understand something of all things and all of some one thing. Dentistry, as well as medicine, is sometimes practiced indiscriminately, but not so much. A student gets a better idea from one section of tooth pulp under the microscope than from pages of book learning.

Correspondence.

"I charge you that this epistle be read."

GAS IN COMBINATION.

EDITOR OHIO JOURNAL OF DENTAL SCIENCE:—I see an article in the JOURNAL for July criticising rather unmercifully Dr. Long's paper on Nitrous Oxide Gas and his methods of administering it. The criticism on the use of gas in combination with liquid anæsthetics in small quantity, like all who condemn its use, is made without the knowledge of a fair and impartial test of the same. Long practice begets prejudice against innovations and especially in this field, but I would like to ask those who condemn the use of such combination, what they know of its effects, by actual experiment? and if used, for how long a time, and how? and whether the grounds of objection to its use are based on such thorough and careful tests as would only be accepted on any other subject? And if the conclusion that such a combination is dangerous or unsafe, in any degree, more than gas alone, please state fully wherein it is so. I claim that the combination of a few drops to the gallon of gas, of chloroform (or preferably a mixture of chloroform, ether and alcohol) so modifies the action

of the gas that the probable risks are *diminished*, while the anæsthesia is produced in one-half the time and by the use of one-half the quantity of gas if used alone. And not only that, but the anæsthesia is continued longer, with an absence of that extreme excitability present in some temperaments, under the influence of gas alone. Now, if these propositions can be controverted by any one who has carefully and thoroughly tested *both* methods, I should like to hear from him.

TOLEDO, O.

C. W. MUNSON, D.D.S.

THE AMENDED DENTAL LAW OF INDIANA—HOW CONSTRUED.

THE interpretation of the recently amended dental law of Indiana, by the Secretary of the State Board will attract public attention, and be very harmful to a large number of dentists, if it should prove the dictum of the board.

The clause of the ninth section, on which this diversity of opinion exists, is, "the certificate must be registered in the Recorder's office of the county wherein the applicant desires to practice." Nowhere else in the amended law, does the word "county" occur, but it employs "State" instead.

It does not presume that the practice of the dentist shall be bound by the county, but that his certificate of qualifications must be "registered in the county wherein the applicant desires to practice." Hence on receiving my certificate from the State Board, I perceived it named Floyd county, which was very proper. But for more than twenty years my professional visits extended beyond Floyd county, and so I made application for these places of my visitation, and received the following answer from the Secretary of the Board, viz: "The law reads simply in the singular number, 'county,' and does not say county or counties.

Sec. 9 was to locate the traveling quacks, who like rats, undermine the profession. In your part of the State there are men who have had several men and boys traveling from house to house cutting prices and contract taking artificial teeth at any price which has been ruinous to many. We grant but one certificate to one dentist and for one county, hence we cannot change yours.

M. H. CHAPPELL, *Sec'y.*"

It is to be hoped that this Secretary's opinion of the law, and his actions in the premises, will not be so interpreted by the State Board. If this were to be the construction of the law, then it would debar a large number of dentists from territory in which they are now engaged and have enjoyed for years. It will thus be seen that this refusal of my application for other county certificates was unworthy so intelligent a Secretary. I was driven to see what my fate would be, and therefore, took my certificate and the amended law, and placed them before the most intelligent ex-judge of our Supreme Court for an opinion. After carefully examining each section of the law, he said it would be proper for me to get registered from that certificate, already procured, or be furnished with others from the State Board. The certificate was an evidence of qualifications and a license to practice in Indiana, by registration in different counties. That was all there was in it, and no profession could be hampered by laws, or circumscribed in its boundaries, as indicated by the Secretary. *

Editor's Specials.

"Write the Vision and make it plain."

EDITORIAL FAIRNESS. WHAT ABOUT IT?

At the top of page 236, vol. 9, *Items of Interest*, is a paragraph which has suggested this special. It reads as follows: "In giving credit to contemporaries for what we clip, we all make mistakes. These occasional unintentional slips will be forgiven. But what shall we say of an editor who fills half his editorial department with the editorials of another journal, without giving credit? One of our exchanges for February publishes six editorials of the *Items of Interest* as its own. Let us hope the omission of credit was unintentional."

We never had any instruction or experience as to editorial duties before assuming a responsibility to discharge them, unless we call such nearly all the editorial labor on volume 9 of the *Dental Register*, which was performed for Dr. Taylor by way of gaining a little experience before taking, with Dr. Taft, full responsibility for succeeding volumes.

Notwithstanding the complaint and protest quoted above, which, in the main, are sound in doctrine, we would remind its respected author that it is one thing to preach and another to practice. We think the *Items* forgets to credit as often as any of us all. And when it does credit it often fails to give credit to whom credit is due. Our friend Allport, perhaps in the July number of 1886, calls attention to one case. Allow us to suggest that when a journal reports discussions or transactions of a meeting with the society's approval, that report is its own property. If an extract is taken from this report, it should be credited to the owner who is responsible for the faithfulness of the report. It is not proper to look at the report and say, Dr. T. says so and so, when it is possible a true report would show his statement to be quite different. Yet any editor has a right to use any part of the report, if not secured by copyright, provided he gives credit to the journal whose report it is.

Twice in our professional experience, once east, and once further west, in every instance our remarks were reported exactly opposite to what had been said.

We think, too, that the *Items* is not always fair in quoting the expressions of individual members of the profession. Cases something like this have not been uncommon. Prof. J. Taft says: (And then follows an extract from a report of discussions three, five, or fifteen years old, possibly; and at the rate dental science is progressing he may hold no such sentiment now, while there is a reasonable doubt as to his ever having expressed it). If we have an opinion, definitely formed on a subject under discussion, and are asked for it, at a dental meeting, we give it unhesitatingly, at the risk of having to take it back, and fight it with all the energy we can muster, if we find it not sound. Only this course is fair.

During last year a rather amusing affair in journalism occurred. The *item* may have been noticed by others. In a certain periodical which complains of its articles being appropriated by others, are a rhyme and a prose article on a certain page. The special number is not now before us. The rhyme was not better than *Longfellow's Psalm of Life*, and hardly as good as COATES KINNEY'S RAIN ON THE ROOF. But it was counted good by the editor, for he put his initials below it.

On the same page is the prose article, (an editorial page,

remember,) about as follows: "That the two kingdoms are closely allied is demonstrated by even the frost crystals on our windows, especially if allowed to remain from day to day till matured. They will be seen to represent every variety of vegetable life known to botanists. And the petals of flowers, if properly magnified, show the work of magneto-electricity in the arrangement and positions of the primary crystals, for crystals they are." (See page 52, vol. VI, OHIO JOURNAL.)

The sentence is in an article begun for a "special," but on account of its length and peculiar character, it was put among the "contributions"; and as our contributor "A Physician," had concluded to take his needed rest, we put his *nom déplume* at the head of our article. And we honestly believe that before the writing of that article there was no sentence in print very much like the one referred to above. But the amusing part is that we wrote to the editor, stating that the rhyme and the prose articles were evidently not from the same author, and asking if he could tell who was the original writer of the prose. The reply was, in substance, that it was written by an eccentric genius for a Philadelphia paper. This author sometimes got off a pretty good thing, like this paragraph, and he had made free to use it, after dressing it up a little.

The bottom paragraph on page 331 of vol. 8 of the periodical referred to is appropriated as editorial, without any dressing. This and the preceding paragraph referred to already are taken from the same article, written by the editor of the OHIO JOURNAL, as "a physician." (See OHIO JOURNAL, vol. VI, page 55.)

We care but little for these borrowings(?) If they are worthy of a wider circulation than that originally given them, something may be gained. If a statement of facts, as above, enables editors to better understand their responsibilities and privileges, there will be something gained.

A FIELD FOR FUN.

A CONVERSATION occurred once in an annual meeting of the Ohio State Society like this: Instead of saying he didn't believe a certain statement a member said, "That is like the dentist who doesn't use amalgam." Another member, from his seat said, "Does he?" and the answer was "HE DOES."

And yet on p. 231, May JOURNAL, Dr. Field is reported as saying, "I do not use amalgam." This is the successor (and predecessor as well) of "Doctor Geofield" that once helped "Mr. Hypothetical" out of his troubles. The report doesn't say that all the members sprang to their feet and called him "a liar and a horsethief;" but they didn't believe him. But the JOURNAL believes you Dr. F., and has "peace in believing." Enough said.

DR. L. P. HASKELL.

It saddens us to know that our special friend and highly prized contributor, Dr. Haskell, has lost the sight of his right eye by accident. But it gladdens us to learn by letter, direct, that the Doctor is still *himself*,—would be sorry to have him anybody else.

Without intending to do wrong, we quote a little from a private letter from him thus: "I have now decided to take rest, although I have decided that one eye is better than none." "Will try to furnish an article shortly for the JOURNAL thro' my amanuen—sis, or rather daughter."

And we can say that the printers will have no trouble with the man's *sis—daughter's* copy, but we'll all rejoice when the *man* himself can wield pen, pencil and plaster models.

Dr. H. has the sympathy of all connected with the JOURNAL.

DEATH'S DOINGS.

"THERE is a reaper and his name is Death;
And with his sickle keen,"

He has gathered into his garner our friend and comrade, Dr. JOHN W. BAXTER, formerly of Warsaw, Ky., later of Vevay, Ind. Dr. B.'s death occurred July 19th, ult., at Inverness, Ky. He was born in the state of New York, Nov. 12th, 1816. He had been ill for some time, from a complication of ailments, and these seem to have rendered him unable to endure the terrible heat of our torrid season.

We learn that about 1832, he left the home of his childhood, and wandered over the wide West as a musician, dividing his attention, however, as occasion required; for Dr. B. was a general genius.

About 1839 he began the study of Medicine, and also the trade of a shoemaker. In 1840 he arrived at Warsaw, and continued his medical studies, and soon after, advised by his preceptors, he turned his attention to Dentistry, and in this line he became quite successful.

Dr. B. was twice married,—in 1842, and afterward in 1850. He was the father of eight children. He was an early member of the Miss. Valley Association, where we first met him in February, 1852, probably. And he was a stockholder and earnest assistant of the Ohio College of Dental Surgery, from which he received the degree of D.D.S., in 1854.

Dr. B. was an honest, upright man, and a very skillful dentist, as well as a general scientist of high attainments. He was very industrious as a geologist, and had few superiors in archæology. He was a genial companion, the most sedate looking and wittiest member of any meeting he saw fit to attend.

In the words of the *Warsaw Independent*, "He died peacefully, believing in the death and resurrection of our Savior."

J. R. WALKER, D. D. S.

"THOU HAST ALL SEASONS FOR THINE OWN OH, DEATH."

DOCTOR J. R. WALKER is dead. Called hence from active life,—from youth as compared with some of us. Why not some of us worn out idlers, when humanity seems to need all the workers. "Even so, Father!" "Shall not the judge of all the earth do right?" But are not thy "ways past finding out?"

Dr. Walker was born in New York State, Aug. 7th, 1836, and died June 22nd, 1887.

When he was about four years of age his father's family removed to Michigan, where the son acquired the rudiments of a good education. When seventeen, he was a teacher and student in Illinois, and there and then he began his dental studies. Returning to Michigan he resumed the study of dentistry at Jackson, and afterward visited the offices of leading dentists east and west.

Desiring a more solid foundation for his professional knowledge, he became a student of Antioch College, Yellow Springs, Ohio, under the presidency of the renowned HORACE MANN, for

the purpose of advancing himself in general science and literature. In 1854 he went from there to Texas, and practised successfully till 1858, when he located in New Orleans, which we believe has been his home ever since.

Dr. W. was active in the civil war from its beginning till its close. He was twice married,—in May, 1861, and again in 1865. His first wife died a few months after marriage, while he was absent in the service, and his second wife, who survives him, needs no introduction to readers of the JOURNAL, unless to tell them to be sure to read the reports of “Mrs. M. W. J.”

Dr. W. was diligent and faithful in his attendance at society meetings, and was an honored and useful member. During his professional career he has been a member of the Miss. Valley Association, Vice-President of the American Dental Association, President of the Southern Dental Association, President of the “National Dental Association,” President of the New Orleans Academy of Dental Science. He was Professor of Operative Dental Surgery in the New Orleans Dental College, a regent of another college, and a member or Fellow of various scientific associations.

The writer’s acquaintance with Dr. W. began in 1856 or 1857, and we have ever found him a modest, intelligent, clear thinker, who appeared to be always calm and ready for any duty in his line.

A tear to his memory! Peace to his ashes! “The husband of the widow” and “the orphans’ stay” for his bereaved family.

NOTE.—Editor’s Specials are mostly crowded out by better materials.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

LIGATURES FOR REGULATING.—Unwaxed saddler’s silk should be used. An ordinary slip-noose of this material will retain its position no matter where the point of traction comes, and will not work up on the neck of the tooth and in contact with the gums.—F. G. E. in *Archives of Dentistry*.

TANNIN FOR BURNS.—An ethereal solution of tannin, of syrupy consistence, is said to be the best application to burns. It immediately soothes the intense pain, dries rapidly, and forms a pliable, non-elastic coating which is preferable to colodion, because it does not shrink and become stiff.—*Dental Register*.

GIVE US THE REST.—DR. W. C. BARRETT, says in the *Independent Practitioner*, "If all the dentists of a city could be prevailed upon to close their offices upon Saturday afternoon and spend the half day in pursuit of health and pleasure, each and every one of them at the end of the year would find himself the better for it, not only physically but financially."

ANTISEPTIC MOUTH WASH.—DR. MAGITOT gives the following preparation as an excellent corrective of fetid breath, when it proceeds from decaying matter in carious teeth:

R Sodæ biboratis, one part; thymol, one-half part, and aqua distil., three hundred parts.—*Med. and Surg. Reporter*.

EPILEPSY FROM CARIOUS TEETH.—DR. LIEBERT reports three cases of epilepsy, (one in its initiatory stage,) which all showed a marked aura, one beginning with a cramp, or involuntary motions of the tongue. All three cases were promptly and permanently cured by the extraction of a decayed tooth, which in every instance had been the source of irritation.—*Med. Register*.

BACTERIAL RESISTANCE.—Bacteria developed in different liquids do not possess the same power of resistance to the action of antiseptics; they resist more successfully when contained in their native fluid than when in culture solutions. The same facts are true of the spores, which are sterilized with more difficulty in their native element than when transplanted into foreign fluids.—*Pac. Record*.

DIFFERENCE BETWEEN CREOSOTE AND CARBOLIC ACID.—Creosote is a distillation from wood tar, carbolic acid from tar of mineral coal; creosote is an oil, carbolic acid an alcohol; creosote is a non-crystalizable fluid, carbolic acid, in its pure state, is always crystalized, except when quite warm; creosote is not soluble in water, carbolic acid is; creosote is not a caustic, carbolic acid is a powerful caustic; creosote is not a germicide, carbolic acid is.—*Mat. Med. and Phar*.

CLUTTON: TWO SUCCESSFUL OPERATIONS FOR CLEFT PALATE IN CHILDREN, UNDER TWELVE MONTHS OF AGE. (*Lancet*, June 4, 1887.)

The hard palate was involved in only one case, and in that to a slight degree. Both operations were done under chloroform; the parts were united by silk sutures. One united completely throughout, and in the other a small fistula was left near the hard palate, which closed spontaneously in a few months.—*Archives Pediatrics*.

PHOSPHOR NECROSIS.—Necrosis of the lower jaw, due to the fumes of phosphorus, is unfortunately of so frequent occurrence as to be scarcely worthy of note; but the following case, reported by Mr. Hutchinson, at the Clinical Society of London, possesses features worthy of mention. The patient, a lady of 45, after taking pills containing 1-33 grain of phosphorus three times daily for two years, consulted Dr. H. for necrosis. In this case, as in all others on record, carious teeth were found to exist.—*Pacific Record*.

MICRO-ORGANISMS.—If the condensed breath collected on the window-panes of a room where a number of persons assembled be burned, a smell of singed hair will show the presence of organic matter; and if the condensed breath be allowed to remain on the windows for a few days, it will be found

on examination by the microscope, that it is alive with animalculæ. It is the inhalation of air containing such putrescent matter which causes half the sick headaches, which might be avoided by a circulation of fresh air.—*Phil. Bulletin.*

BACTERIUM-PHOSPHORESCENS is the name of the last discovered micro-organism, its sponsor being Dr. O. Hermes, who found it upon a specimen of the *Gadus Calliarias*, which had been rendered phosphorescent by post-mortem applications of sea water. It can be cultivated upon sterilized fish, which it lights up brilliantly in about 48 hours. Perhaps some enterprising Yankee will now patent an automatic fish-lamp and night-light, kept constantly "burning" by the dripping of sea-water over a globe of cod-fish skins! —*Pac. Record.*

TO MEND PLATES.—Whether metal or rubber, it is not generally well to bring the crack together. The plate cracked probably, because some teeth struck more forcibly than others, and thus were the cause of the spreading afterward. Therefore, either shorten these offending teeth or mend the teeth spread as you find it. Sometimes the spreading is caused by the unequal shrinkage of the jaw under a temporary set. Then, if the crack is brought together, there must be rubber substituted for the shrinkage, or else the plate must be mended in its spread condition.—*Items of Interest.*

RIGHT UPPER CANINE TOOTH IN THE LEFT ORBIT.—DR. JOHN WARD COUSINS reports, in the *British Medical Journal*, April 23, 1887, a very interesting case of a child, two years old, from whom he removed a tumor of the left orbit, which proved to be a supernumerary and misplaced right upper canine tooth. The crown of the tooth was enclosed in a sac, and the root was attached to the orbital plate by fibro-cartilage. On examination the teeth in the mouth were found in normal position, complete in number, and well formed. The jaws were also large and fully developed for a child two years old.

Societies.

"Wherewith one may edify another."

MEETINGS.

International Medical Congress, Dental Section, Washington, D. C., September 5, 1887.

The Central Illinois Dental Society, Springfield, October 11 and 12, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 25, 1887.

Ohio State Dental Society, Springfield, Tuesday, October 25, 1887.

THE NATIONAL ASSOCIATION OF DENTAL FACULTIES

Will meet at the Ebbitt House in Washington, D. C., on Saturday, September 3d, 1887, at 10 o'clock A. M.

By order of the Executive Committee,

H. A. SMITH, *Secretary*.

C. N. PEIRCE, *President*.

MINNEAPOLIS DENTAL SOCIETY.

THE officers for the ensuing year are: *President*, M. G. Jenison; *Vice-President*, E. H. Angle; *Secretary*, E. T. Clark; *Treasurer*, F. H. Brimmer; *Librarian*, C. M. Bailey.

THE AMERICAN DENTAL ASSOCIATION.

THE 27th annual meeting was held at Niagara Falls, N. Y., August 2, 3 and 4, 1887. The attendance was not as large as usual probably on account of the coming International Dental Congress at Washington. The papers presented, however, were of a high order. Taking it altogether, it was a good meeting.

Old Point Comfort, Va., was selected as the next place of meeting.

Officers for the ensuing year are: *President*, F. Abbott, New York City; *1st Vice-President*, C. R. Butler, Cleveland, O.; *2nd Vice-President*, T. S. Waters, Baltimore, Md.; *Recording Secretary*, Geo. H. Cushing, Chicago, Ill.; *Corresponding Secretary*, F. A. Levy, Orange, N. J.; *Treasurer*, Geo. W. Keely, Oxford, Ohio.

Executive Committee—A. W. Harlan, L. D. Shepard, A. O. Hunt.

The following resolutions were adopted:

Resolved, That the Southern Dental Association be asked to hold a union meeting with the American Dental Association next year.

Resolved, That \$1,000 be appropriated, from the treasury of this Association, and set apart to be used to protect dentists from the unlawful demands of patentees.

On account of accumulated society reports which must appear in this issue, our special report of the American meeting is crowded out, but will appear in the October number of the JOURNAL.—ED.

NATIONAL BOARD OF EXAMINERS.

A MEETING of the Board was held and among other things the following reports and resolution were adopted :

REPORT ON THE ROYAL COLLEGE OF DENTAL SURGERY.

The committee to whom was referred the application of the Royal College of Dental Surgery, of Ontario, Canada, to have rescinded the action taken by the Association at Minneapolis, which decided that the L. D. S. should not be accepted as equivalent to a dental degree to save examination by the Boards of Examiners, respectfully reports,

That, the action heretofore taken by this Association should stand for the following reasons: First, That the L. D. S. granted in Ontario is a local license to practice, not recognized in all the provinces in the Dominion nor in Great Britain, rather than a degree in dentistry conferred on the completion of a college education. In this respect it is analogous to the licenses granted by one of our State Boards, which are not generally recognized by the Boards of other States.

Second, That when the L. D. S. is granted as a degree in dentistry, on the completion of the required course in their school of dentistry, it represents two courses of four months each, while our schools require two courses at least of five months each.

Third, That in their last announcement they advertise to grant the L. D. S. for a fee, and, after examination, upon any non-resident who has been in practice three years exclusive of two years pupilage, *sine corriculo*.

L. D. SHEPARD,	} Com.
E. P. KEECH,	
H. A. SMITH,	

REPORT ON THE UNIVERSITY OF TENNESSEE.

Your committee to whom was referred the action of the Indiana State Board of Dental Examiners in relation to the rejection of the dental diplomas of the University of the State of Ten-

nessee, as per their announcements, they have granted dental diplomas to those who have attended only one course of lectures in any institution, which practice is in direct opposition to the resolution of this Board adopted in 1884, in which it was resolved, that after the session, the various State Boards comprising this Association be instructed to refuse the diplomas of any college which does not require, as a prerequisite for graduation, attendance upon two full regular courses of lectures, and practical instruction of not less than five months duration, and held in separate years. The University of Tennessee must have been cognizant of this fact, as copies of the Transactions of this Association were forwarded to them, and transactions were also published in the dental journals, hence they must have issued diplomas after the date above named, with the certainty that they would not be received by the State Boards represented in this body, and can therefore have no ground of complaint against any Board for rejecting them. Your committee find that the Indiana State Board acted as is duty bound, and recommend that this Association fully endorse their action in this case.

GEO. H. CUSHING, }
 C. R. BUTLER, } *Com.*
 E. P. KEECH, }

Resolved, That it is the sense of this Association that it is inexpedient to recommend State Boards to accept the certificates of license issued by the authorities in other States.

The following officers were elected for the ensuing year: President, Geo. H. Cushing; Vice-President, T. S. Waters; Secretary and Treasurer, Fred. A. Levy.

Our Aftermath.

The New York Medical Monthly has been discontinued.

The Medical Register, of Philadelphia, will be published daily during the International Medical Congress.

The Medical Record, of Lafayette Place, N. Y. City, will make a full stenographic report of the proceedings of the International Congress, which will appear in its subsequent publications.

NO WOMEN NEED APPLY.—Women students are hereafter to be excluded from German universities.—*Buf. Med. Journal.*

KEEP RECORDS OF CASES.—“Symptoms are the alphabet, cases the language, of disease, and that physician subserves his profession who carefully records his experience.”

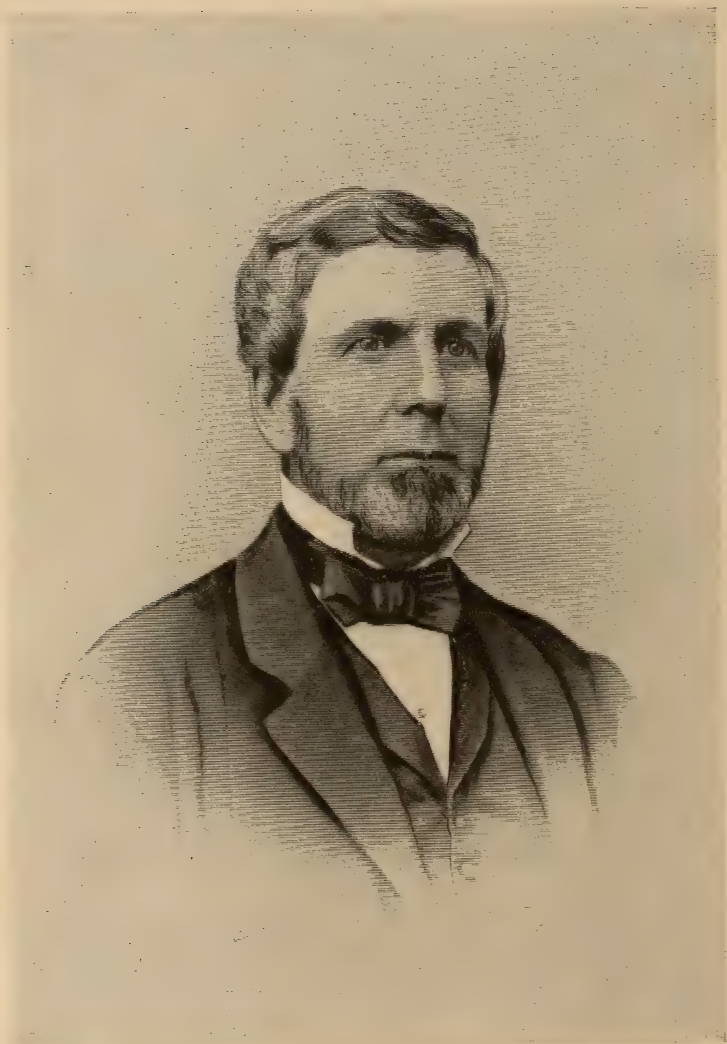
BACTERIA AND THE PRICE OF ICE.—“I see that bacteria have been discovered in Hudson River ice,” observed Fangle. “Ah!” replied his wife; “that will be another excuse for raising the price, I suppose.”—*Ex.*

DENTISTS AND PHARMACISTS.—All gentlemen who can represent dentistry and pharmacy should go to Washington September 5th and become members of the Ninth International Medical Congress. A hearty welcome will be given to every one.—*Medical Register.*

MEDICAL LOGIC.—A physician observed that 20 per cent. of the men present at a grand opera were bald-headed. A few nights afterward he noticed that but 5 per cent. of the men at a comic opera were bald-headed. *Ergo*, comic opera is a hair restorer.—*Buf. Med. Journal.*

JOSH BILLINGS ON DOCTORS.—Doktors are not all quaks; you hav got wrong noshuns about this. Doktors, lawyers, and ministers hav a hard row to ho; they hav to do with the kredulity, knavery and fears ov the people,—three ov the most difficult traits in human natur tew handle. If i was a doktor and understood my bizziness, i should doktor mi pashunts, and let the disease take care ov itself. More folks are kured this way than enny other.

A DAKOTA DOCTOR.—The Board of Health of Dakota publishes the results of an examination of an applicant for a license to practise medicine. He had been practising medicine for years in a populous district of South Dakota. Here are some questions and answers: Question. What medical journal do you take, doctor? Answer. Well, they have all run out. Q. Don't you intend to take any of them again? A. Well, I can get along without them. Q. What books have you in your library? A. “Gunn's Family Physician and Common Sense Home Doctor.” Q. What is an element, doctor? A. Oh! anything. Q. Is that bed an element? A. Yes. Q. Name the three great cavities of the body. A. The head, the belly, and the diaphragm. Q. Mention the contents of the cranium. A. The brain and three skins. Q. Name contents of abdominal cavity. A. Kidneys and the prostate gland. Q. Does the prostate gland ever become enlarged? A. Yes. Q. Have you treated any cases of enlarged prostate? A. Lots of them. Q. With what success? A. Tip-top! Never lost a case. Q. Did you ever treat any female for enlarged prostate? A. Oh, yes; numbers of them.



T. L. BUCKINGHAM, M.D., D.D.S.

Ohio Journal of Dental Science, Toledo, O

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

OCTOBER, 1887.

No. 10.

Contributions.

“A word fitly spoken is like apples of gold.”—SOLOMON.

PROFESSOR THOMAS L. BUCKINGHAM, M.D., D.D.S.

A BIOGRAPHICAL SKETCH.

AGAIN the readers of the JOURNAL are treated to an excellent portrait of a worthy father and brother who has gone to his rest,—a portrait of one whose familiar face will be recognized by the older readers with mingled feelings of joy and sorrow—joy that our hero was able to do so much, and to do it well,—sorrow that the fertile brain and skilled hand are idle in the cold embrace of Death. Also many younger readers will look on the portrait and vividly recall the cordial, animating and encouraging words of their much loved teacher; for few, if any in our profession have taught so many pupils as he. At the close of life he had been a continual teacher of dental science longer than any other man, alive or dead; and in this respect he has as yet but a single rival.

Professor Buckingham was probably not so much of an organizer as either of the two represented by our previous portraits, and, perhaps, was not so much inclined to use other men. But he was a more patient interpreter of Nature, and was more persevering in solving her secrets by scientific, experimental re-

search. I never saw any other investigator so contented, so apparently indifferent, while awaiting the decisive result of a tedious experiment. He was in such cases a model jurymen, waiting for the evidence, and no one could suppose that he cared for the fate of any preconceived theory. *Truth* he was after; and he was waiting on a witness who could speak nothing else.

The writer's acquaintance with Doctor Buckingham began in 1856, and this at once ripened into warm personal friendship, which suffered no interruption. An intimate personal and professional acquaintance affords opportunity to detail many rich and interesting reminiscences, but as this is intended for only a sketch, by way of friendly memento, such indulgence will not be practised.

The professional career of Doctor B. gives another illustration of a great city's drawing life and energy from the rural districts. The cities afford great opportunities, and give promise of marvelous possibilities, but their boys have not usually the stamina pertaining to those raised in the pure air of country life.

THOMAS LEA BUCKINGHAM, D.D.S., M.D., was born March 9th, 1816, in the state of Delaware, near its northern extremity, not far from Stanton, in the county of New Castle. He was of English descent, his parents being James and Mary (Oliver) Buckingham.

Dr. B's early education was derived from a common school near Brandywine Springs; and on leaving this he went into a mill as his father's assistant, and held this position till he was twenty years of age. After this he farmed for a period of seven years, or till 1843. Leaving the farm, he went into Wilmington, and began the study of Dentistry with Dr. A. C. Reynolds of that city.

In 1845 he left Wilmington, and located in Philadelphia, in partnership with Dr. Lee, who for many years had been established on Walnut street. In the following year, 1846, this partnership ceased, and from that till his death Dr. B. practised alone in Philadelphia, if we except a brief association with his own son.

Dr. Buckingham was one of the founders and organizers of the original Philadelphia Dental College, the third dental college to exist. In this he was chosen Professor of Mechanical Dentistry, and discharged the duties of this chair with energetic indus-

try, probably failing to find out that he was teaching *prosthetic oral surgery*.

Perhaps from lack of harmony between the Trustees and Faculty, this college was practically deserted by the faculty resigning and proceeding to obtain a charter for a new college, which was established in 1856, and called The Pennsylvania College of Dental Surgery. In this Dr. B. was appointed to the same department held by him in the old Philadelphia, but, a year later, he was made Professor of Chemistry, and held this position during life.

Dr. B. was Dean of the Faculty of this college from 1857 till 1871. He received the degree of Doctor of Medicine in 1851, from the Philadelphia College of Medicine. His degree of Doctor of Dental Surgery was received in 1853, from the Baltimore College of Dental Surgery.

Doctor Buckingham was an active worker in the cause of professional progress. He wrote a number of valuable articles for different periodicals, and was, for a time one of the editors of the *Dental Times*, a periodical under the control of the Faculty of the Pennsylvania College, but not now published.

Though usually a quiet member, Dr. B. was felt as a power in our professional associations. He was one of the organizers of the Pennsylvania Dental Association, now the oldest in existence except the Miss. Valley Asso. In 1860 he was President of the American Dental Association, which held its annual meeting that year in Detroit, and it is not necessary to say that he presided with dignity and fairness.

In the closing years of his life Dr. B. was one of the oldest established dentists in Philadelphia, and the writer believes he had the confidence and respect of all his fellow practitioners. How could it be otherwise? for the dentist who failed to respect Dr. B. became an object of suspicion throughout the profession.

Dr. B. was a few years older than the present writer, received his medical degree three years later, and his dental degree one year earlier, and began the public teaching of chemistry to dental students three years later than the present writer; yet no other man has taught chemistry in its applications to dentistry so long as did Dr. B. These facts may answer the oft repeated question usually stated thus: "Why are you and Dr. B. so devoted to each other, when you're not a bit alike?" The querist was reminded that *unlikes* manifest the strongest affinities.

Dr. Buckingham was less subject to moods than are a majority of us. Enjoying almost uninterrupted physical health a great portion of his life, he was able to be uniformly cordial; and herein lies one secret of his great and benign influence with students. They felt at ease as soon as ushered into his presence.

Dr. B. was at the Highland House meeting of the American Dental Association in Cincinnati, and there reported the results of a series of practical experiments carefully conducted by himself, but, as most of our readers have read the transactions of that meeting, it is not necessary to go into details in reference to them.

It was his professional habit to bring disputed theories to trial in the court of experiment. At the same meeting he publicly vindicated himself and the cause of scientific truth from a misunderstanding, or misrepresentation, of nearly twenty years' standing. At this meeting he seemed cheerful, energetic and vigorous,—every way like a man in the prime of life. Such he was when last seen by the writer,—active, vigorous and cheerful at the close of that meeting. But in such condition of mind and body he was not long to remain. How he appeared a year afterward must be left to the words of others.

Doctor Buckingham was at the meeting of the American Dental Association at Niagara Falls, in 1883. The writer was not able to be present, but a mutual friend returning homeward after the meeting, uttered the ominous words, "Dr. Buckingham is dying!" "He's dying in harness," was the reply.

After Dr. B.'s death a memorial meeting was held in the hall of the Pennsylvania College, Oct. 30th, 1883. Addresses were made by a number present, and letters were read from some unavoidably absent. From one of the latter, written by Dr. F. H. Rehwinkel, of Chillicothe, the following is extracted:

"How vividly this brings to my mind the last time I had the pleasure of meeting with our deceased friend. It was at Niagara Falls, last summer. It was my privilege to be one of the first to welcome him, and one of the last to bid him good-bye. At both times a feeling of indescribable sadness took possession of me; and when the final farewell was spoken, and hands released from the last warm and hearty clasp, I felt a presentiment creeping over me that this would be our last meeting on earth. How sad it is to remember with what heroic fortitude and courage he kept his place in line. He did not miss a session of the Association; spoke upon questions of interest to the dental profession, and

evinced that lively and unabated interest in the welfare of dental colleges and education to the very last.

Dr. Buckingham was one of the kindest and most genial gentlemen it has been my good fortune to meet. 'To know him was to love him.' He was a warm and faithful friend of more than two decades to me, and sincerely do I mourn his loss; not only as a valued and honored member of the dental profession, but as a dear personal friend.

'Peace to his ashes.'

With the assurance of my high personal regard, I am gentlemen,
Truly and respectfully yours,

FR. H. REHWINKEL."

Many were the testimonials given by tongue and pen, at the memorial meeting, and all are respectful and tender like the above.

Some of us will die and fall like reeds or switches; but when the sturdy oak comes crashing down, it is missed from the forest.

DR. BUCKINGHAM DIED WITH HIS ARMOR ON.

A CASE IN PRACTICE.

BY GEORGE W. KEELY, D.D.S., OXFORD, OHIO.

THE case here illustrated is of a girl aged fourteen years and four months when she came to me. The six superior anterior teeth were very prominent, and when her lips were at rest one-half the length of the incisors was exposed to view.

From the cutting edge of the superior incisors to that of the inferior, measuring back, it was just *one-half inch*. Both arches were unusually well developed, measuring at the margin of the gum (palatine surface) between the 2nd bicuspid one and one-eighth of an inch, and between the first molars one and three-eighths of an inch. In the inferior arch on the left side the temporary molar was *prematurely extracted*, causing the permanent first molar, when erupted, to come forward, and the anterior teeth to fall back, closing up the space due the second bicuspid and throwing the center out of line nearly the width of a central. The second bicuspid had erupted *wholly* inside the arch.

The premature removal of temporary molars will invariably cause trouble of this kind to a greater or less extent, and the injurious consequences can always be seen.

As both arches were so well developed, expanding the teeth to make room to bring the protruding teeth down and in line would create an increased deformity. By careful measurements we found, that, by removing the first bicuspid, each one would give a space of three-eighths of an inch, all of which would be necessary to bring the six malposed teeth down and in line.

This deformity was inherited; the same prominence appearing on the mother's side, but not to so great an extent.

Figure 1 shows the condition of the patient's teeth after the first bicuspid were removed, though the undue prominence is not well defined.

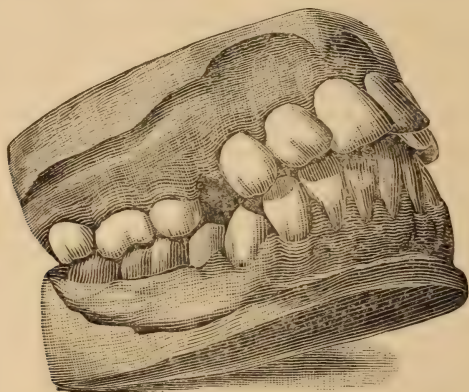


FIG. 1.

It is comparatively an easy operation to expand teeth, or bring them out of a lock, as the resistance is not so hard to overcome, but to move protruding teeth back, and down into line where you have so much greater resistance, requires time, patience and perseverance for both patient and operator.

The apparatus we used can be easily understood from the following description: A perfect impression was taken of all the superior teeth, then the model. To this we fitted the trial plate, covering the roof of the mouth and all of the posterior teeth, adjusted it and got the bite. Buttons were placed on the buccal surface of the second bicuspid and first molar. This being vulcanized, was fitted to the mouth, the plate being cut away in the region of the teeth to be moved; a spur was left to bear on the left lateral, it being turned one-fourth in its socket.

The plate being adjusted, remained firm ; small rubber ligatures were carried from the cuspids to the first button and so arranged as not to impinge on the gum, then a strong rubber band was drawn from the second button over the cutting edges of the incisors and cuspids to the other side, which pressed the teeth back and down into line, and also pressed them up in their sockets.

This apparatus was removed daily and cleansed perfectly, and the patient required to brush her teeth. Very strong bands were used most of the time, and new ones put on when necessary. The plate fitting so well, and the bite being correct, she had little or no trouble in masticating.

There was at no time any inflammation or soreness to annoy the patient, excepting forty-eight hours when we placed rubber wedges between the cuspids and laterals to hurry the stubborn cuspids back to the position formerly occupied by the first bicus-pids.

My patient came from Northern Ohio, and I saw her from two to three times every day during her *three months stay*, there being no outside influence to interfere with the operation.

She was well developed for one of her age, one of the best of patients, and fully appreciated what was being done for her, a matter of no small consideration to the operator.

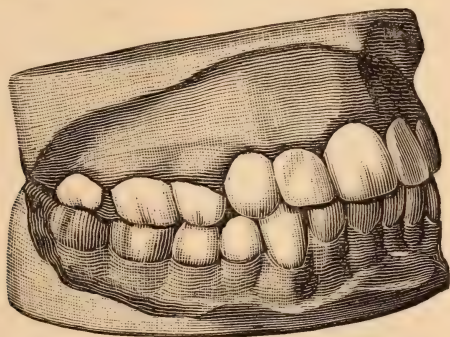


FIG. 2.

Figure 2 shows the result, and it can be seen that the cuspids are back to the second bicus-pids, and all the teeth are down in line. The left lateral stands as perfect as the right one, which lapped slightly on the incisor. The incisors are shortened a trifle and the process in front is flattened, and the expression of the mouth greatly improved. The second left bicuspid that erupted

wholly inside the arch, being in the way of the tongue and of no practical use, was removed. The prominence of the teeth caused the muscles of the lip to contract and she was requested to frequently press her lip down for the purpose of expanding the muscles.

A retaining plate, similar to the one described, but light and thin, with a bearing on the palatine surfaces of the refractory teeth, was used, together with a band cut from rubber dam to be worn at night until the teeth become firm in their new position.

ECONOMY.

BY E. H. RAFFENSPERGER, D.D.S., MARION, OHIO.

Economy, in its place, is a grand thing ; but it is often carried to such an extreme as to make it ridiculous and disgusting, as the following cases will show: A few years ago a wealthy farmer in this vicinity died, leaving quite a large estate. Shortly after his death I was called upon by his grief stricken widow who wanted to sell me an old artificial denture belonging to the deceased, who told me that she was trying to "settle up the estate," and did not like to sell the teeth at auction with the rest of the goods she intended to dispose of that way. She thought probably my being a dentist I could set a value on the teeth, and give her more than any one else. It is needless to say that she did not effect a sale with me, and was rather astonished when I gave her my views on the subject. Now this woman was rather an intelligent person, but she wanted to economize, and get all she could out of the estate, teeth and all.

Another case was equal to, if not ahead: A man from away back in the woods some place, who had recently lost his wife, brought to me a full upper and lower set of teeth, (which had been the property of his wife, but which she had no use for, since she had "passed over,") and wanted to "trade" the same to me for some filling that he wanted done, as he "allowed," I could use them for some one else, who would be willing to take the teeth second hand for a trifle less than the regular cost. This was economy "pressed down and well shaken," but I did not see the way clear to take him up on his trade,—was rather tempted to kick him out, but the fact of his being larger than myself pre-

vented me. I thought this last case "capped the climax," but was mistaken, as only a few evenings since, while attending lodge, one of the "brothers" called me aside and told me he had learned a "trick," and that I, as a dentist, ought to know it. He then proceeded to tell me how his mother had died a few years before, and among her effects he had found a set of teeth; and he being toothless in the upper jaw had tried in the teeth, but they did not fit; and that he had laid awake several nights trying to invent some way to make those teeth fit without going to a dentist, and at last had struck on the following unique method. [I don't know but may be I ought to keep the secret to myself and sell it for about \$5.00 to all who wanted to buy, as that seems to be a favorite scheme of some of my professional brethren, but no, I will publish it to the world so that all may be benefitted(?) thereby, so here she goes, *read carefully*]: Take a stick of chewing gum, (price, one cent), chew it well to make it soft and sticky; then place it over the palatine surface of your ancestor's plate, and put the plate in the mouth, press up well; and according to the statement of my informant, it will stick as "tight as wax." Not having tried it yet I cannot vouch for the integrity of the statement; but he further said, he had been wearing his mother's teeth now for over three years, and that one piece of wax will last for months. I fear I have made a mistake in making the above known. Some may take the hint and advertisements something like the following may appear in our daily papers:

WONDERFUL DISCOVERY.—Teeth made to fit any person. One set made to answer for a whole family! Can be used for several generations. Save your old teeth and find the teeth your ancestors wore. Apply to DR. HUMBUG.

NOTES ON ORTHODONTIA WITH A NEW SYSTEM OF REGULATION AND RETENTION.

BY EDWARD H. ANGLE, D.D.S.,

Professor of Dental Histology and Instructor in Orthodontia in the Dental Department of Minnesota Hospital College.

[Extract of a paper read before the Dental Section of the Ninth International Medical Congress, at Washington, September, 1887.]

IN this brief paper I shall confine myself to the consideration of movements of the teeth during treatment, and later on shall

offer for your consideration some appliances for accomplishing these movements and the retention of the teeth when in proper position.

In studying the conditions by which we may best accomplish the movements of the teeth, we may simplify matters if we remember the movements are but five, viz., forward and backward in the line of the arch, inward or outward, in the line of the arch, and partial rotation. These and their slight modifications (with the exception of elongation and depression which are so rarely necessary that I will not here speak of them) are all we are called upon to perform. The principles governing all of these movements are the same so that by understanding the principles governing one we may comprehend them all. In applying force to a tooth it should be sufficient to accomplish the movements as rapidly as is consistent with the laws of physiology. The unnecessary length of time often occupied is a very common cause of failure, both operator and patient often times becoming exhausted before the operation is completed.

When pressure is once applied it should continue without relinquishment, for there should be no retrogression of the tooth. Indeed, I attach so much importance to this fact that I believe it may be laid down as a law in orthodontia, for I believe the frequent removal of pressure is contrary to the laws of physiology and when occurring as by slipping, breaking appliances, frequent adjustment of ill designed appliances, or for purposes of cleansing, or changing of appliances, is the cause of nearly all the soreness and pain, and I may add a very common cause of failure in regulating, and to this cause directly, I believe, may be traced strangulation and death of the pulp, which is so often attributed to the too rapid movement of a tooth.

An appliance for accomplishing the movement of a tooth should be so perfect in design, construction, application and operation that there should be no occasion for its removal until the object for which it was designed is accomplished.

RETAINING APPLIANCES.

On this subject little has been given us, and to this question far too little importance is attached. After the malposed tooth has been moved into the desired position and proper occlusion secured, it should be firmly supported and retained in such position until it has become firm in its socket. A retaining appliance

should hold the tooth so firmly that there will be no movement to disturb, or in any way interfere with the new bone formation. Absolute rest is essential to the most speedy and satisfactory results. The importance of a firm support and rest while the tooth is becoming firm, is well illustrated, says Guilford, in the necessity of placing a fractured limb in immovable splints.

A retaining appliance should remain stationary until the object for which it was designed is accomplished; at the same time it should be cleanly and in no way irritating to adjoining tissues, as it must, of necessity, be worn for a long time.

I will now call your attention to a few simple appliances for accomplishing the different movements of the teeth, and retaining them when in the desired position. Their great strength, simplicity, cleanliness and the firmness with which they are held in position while accomplishing their work, render it possible for any dentist of average ability to easily construct and apply them, and to continue the movements without interruption, to the most speedy and satisfactory termination; and I may add, if the work is carried forward with care and judgment, the operation will in the majority of cases be comparatively painless.

Before passing to the consideration of my own appliances, I wish to speak of the valuable practice of cementing delicate bands of gold or platinum around the teeth to be moved. This is not a new idea. I believe the honor of bringing this invention before the profession is due to Dr. McGill, of Erie, Pa. It plays so important a part in connection with the appliances I am about to show you, that I wish to speak especially of the method which I have found to be the easiest and quickest in making and applying these bands. A strip of 32-36 gauge platinum, about $\frac{1}{8}$ of an inch in width is made into a loop and slipped over the tooth to be banded. The ends are now grasped close to the tooth by a pair of flat nosed pliers and the band drawn tightly about the tooth, a strong burnisher being applied at the same time to still further assist in making it conform to the shape of the tooth. The band is now removed. A small bit of solder is now placed in the band at the junction and all carried in contact with the flame of a soldering lamp. After it is soldered the ends are clipped off and the band is now complete and ready for any attachments which may be made after which it is cemented in position upon the tooth.

For accomplishing the five movements of the teeth, I use the following simple appliances:

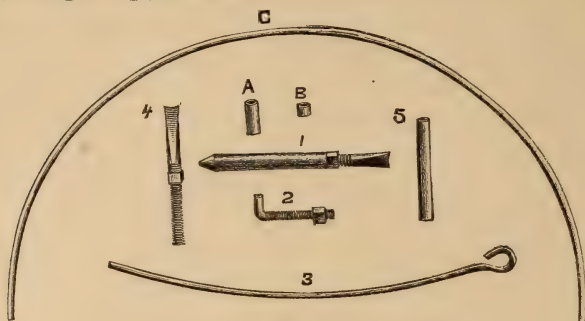


FIG. I.

A small jack-screw, as shown in Fig. I, 1. A traction screw shown in Fig. I, 2. Rotating appliance shown in Fig. I, 3. For making and using these appliances, all that is needed is Stubb's steel wire of three or four sizes, some jeweler's gold plated wire and some joint wire, which may be of either gold or silver.

The jack-screw is made by cutting a thread on a piece of Stubb's steel wire of the desired size and length. One end of this screw is then beaten flat, on to the other end is screwed a small nut made of platinized gold. This complete is shown in Fig. I, 4. A piece of the joint wire is now sawed off the desired length and the end left square as in Fig. I, 5, or plugged and filled or turned to a round point as shown in Fig. I, 1. The screw is then slipped into this pipe and the whole jack-screw is now complete and ready for use as shown in Fig. I, 1. This style of jack-screw may be made any size or length, the largest I have yet made being $2\frac{1}{2}$ inches in length, the shortest $\frac{1}{4}$ of an inch.

The traction screw is made of Stubb's steel wire, in a very similar manner to the jack screw, with the exception that one end of the screw is bent sharply at right angles. The screw complete is shown in I, 2. The entire length of a screw is about $\frac{3}{8}$ of an inch, the angle or bent portion is about $\frac{3}{32}$ of an inch.

The rotating appliance, a piece of piano wire about $2\frac{1}{2}$ inches in length is bent at one end into the form of an eye. Complete as shown in Fig. I, 3. Rotation by means of this instrument is accomplished by banding the tooth to be rotated in the usual manner. Before cementing the band in position on the tooth, a piece of joint wire (A), (the bore of which is exactly the size of

the piano wire just described), $\frac{1}{4}$ inch in length is soldered to the band on the buccal or labial portion at right angles to the axis of the tooth. The band is now cemented in position on the tooth, the straight end of the piano wire is inserted into the little tube, the other end sprung round and made fast by means of wire ligatures to the tooth nearest the eye of the rotating lever.

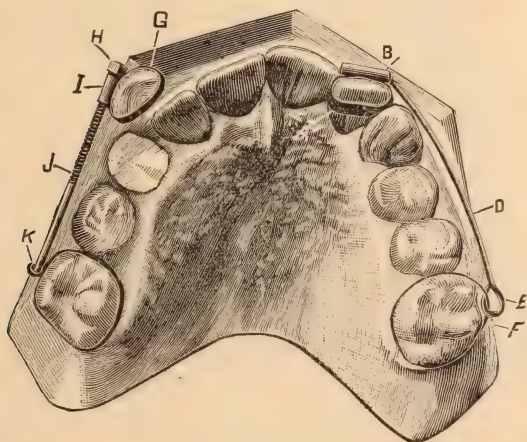


FIG. II.

Fig. II shows an incisor tooth being rotated by this method. After the tooth has been moved into the desired position, it is retained in such position by removing the spring and inserting a piece of gold plated wire into the tube from the opposite side long enough for the end to rest on the labial surface of the tooth adjoining, in the manner shown in Fig. III.

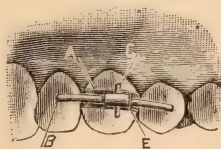


FIG. III.

For accomplishing the movement of a tooth from within outwards into line of arch, the jack screw is used in the following manner: The tooth to be moved is banded and piped in the same manner described in rotating, into the palatal side of the band is formed a slot into which is inserted the flat end of the jack screw. Resistance for the base of the jack screw is gained

by selecting a sufficient number of teeth to completely resist the pressure of the moving teeth. These teeth are banded in the usual manner and piped close to, and on a line with the gum and a piece of the gold plated wire is threaded through these little pipes either before or after cementing the bands in position. Against this wire is placed the base of the jack-screw.

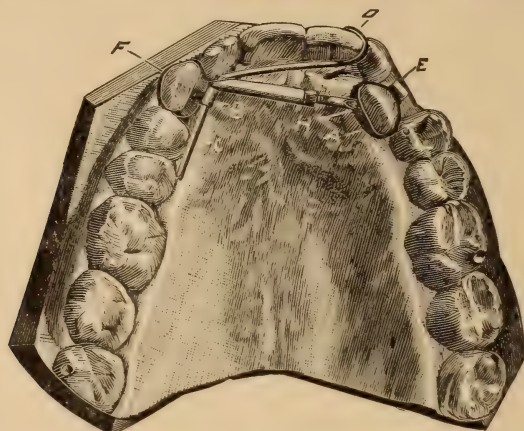


FIG. IV.

Fig. IV shows the screw in position in moving an inlocked canine. Force is applied by tightening the nut with a small wrench.

After the tooth is moved into the desired position it is secured and firmly held in such position by passing a short piece of the gold plated wire through the little tube previously soldered to the labial or buccal portion of the band (Fig. IV, *E*) the wire being long enough for the ends to rest upon the labial or buccal surface of the tooth on each side. Thus the tooth is effectually keyed into its new position as shown in Fig. III.

The movement of a tooth from without, inwards into the line of the arch, is accomplished by banding and piping the tooth to be moved, the pipe resting close to, and on a line with the gum on the palatal side. The angle of the traction screw is hooked into the pipe. Resistance is gained by banding, piping and wiring together (either gold or piano wire may be used) a sufficient number of teeth in the arch to overcome the resistance of the tooth being moved, the traction screw and nut drawing through and against a short piece of the joint wire soldered to the wire of resistance on a line with the screw.



FIG. V.

Fig. V shows the screw in position in moving a lateral incisor. After the tooth is moved into the desired position it is retained by removing the angle of the screw from the pipe and slipping into its place a short piece of the plated wire, the ends resting against the palatal surface of the tooth on each side according to the same principle used in the foregoing case.

The movement of a tooth backward in line of the arch is accomplished by banding and piping the tooth to be moved, (for example a canine) same as for rotation, a suitable tooth of resistance is selected (for example second molar) banded and piped, the pipe being soldered to a band on the line with the axis of the tooth. Into this pipe is hooked the angle of the traction screw. (A longer screw than the one first described is used but of the same gauge.) The screw is passed through the pipe in the tooth to be moved, and the nut applied. Fig. II shows appliances in position. The nut is tightened often as necessary, and the screw as it passes through the nut and becomes irritating to the lips is snipped off. After the tooth has been moved back the desired distance, it is retained in such position by the screw already in position, or the screw may be removed and the plated wire inserted in its stead.

The movement of a tooth forwards in line of the arch is accomplished in the same way, only selecting a tooth of resistance from the opposite side.

Such are the general ways of using these appliances, but the different ways in which they may be applied are almost innumerable, each case requiring some slight modification.

In conclusion, let me add, the greatest care and accuracy should be observed in the construction, application and use of these appliances. The little tubes should be of gold and fit snugly the different parts of the appliances passing through them. The rubber dam should always be adjusted about the teeth before fitting and cementing the band in position. The screws may be made of platinized gold, or if steel be used, they should be nickel-plated.

AMERICAN DENTAL ASSOCIATION.

HELD AT NIAGARA FALLS, AUGUST 2, 3, AND 4TH, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE.]

THE twenty-seventh annual meeting of this Association was held in the Park Theatre, Niagara Falls, N. Y.

FIRST DAY.

The President, Dr. Allport, made his annual address, taking as a theme, "The history, power and unison of scientific effort as related to the advancement in the art and science of dentistry." He spoke of the first Associations of any note being organized in England in 1645, in France, 1666, and about the same time other societies sprang into existence in different parts of Europe. In America the American Medical Society was organized in 1848. The American Society of Dental Surgeons was organized in 1841. At this time science was not far advanced, compared with the present. He pointed out that the years 1839 to 1841 were generally considered as the most important epoch of dentistry. The first dental journal, *American Journal of Dental Science*, was first published in Baltimore, in 1839. In 1840 the Baltimore College of Dental Surgery was instituted. Trouble sprang up among the members of the old society and it was disbanded. A second organization was formed in 1855, called the American Dental Convention. In 1860 the present society was organized, about 26 delegates being present at the time. In 1858 there were but four or five local societies in the United States, now there are over sixty, and they have been largely due to this Association. From its institution this society has been instrumental in establishing a higher degree of instruction, yet to-day some of the col-

leges were only low-priced incorporated dental offices, and diplomas from such colleges should be refused. He said that the admitting of dentists to the International Medical Congress was well considered before voted upon, and their acceptance showed the standing of the dental profession to-day, one of which to be proud.

REPORT ON DENTAL LITERATURE AND NOMENCLATURE.

DR. LOUIS OTTOFY made the report, which was an exhaustive one, completely covering the ground of dental education in this and other countries. In the United States at present there are about thirty-two dental colleges, located in fifteen states. One of these colleges, the Meharry, for colored students only, was doing good work, and he recommended that additional facilities be given the colored students for advancing in the profession. That twenty-five of the colleges conform to the Board of Faculties' decision, etc.

He spoke of the indications in foreign countries. That in Hungary the advantages were not good. In France, dental laws have but recently been enacted. In mechanical dentistry the French get a good polish, but poor adaptation. In operative dentistry the French are yet in their infancy. Their examinations are oral. In Russia they require a certificate of practical dentistry, and examinations as to matters and means in dentistry, but they are simple. In Cuba their dental education is imperfect. In Brazil a three year's course is required, and all going there must submit to an examination in the language of that country, and the diploma must be approved; and then occurs the regular examination which is the same for all students. From reports received there seemed a tendency toward improvement, and that the colleges were better equipped than in the past. He then spoke of the manufacture and selling of American diplomas having at last been suppressed, although not until its influence had been felt in other countries, and lowered the standard of all American schools. He suggested that a uniformity of fees, as near as possible, be adopted by the dental faculties, etc.

In regard to literature he, in a general way, reviewed the new dental journals and other publications, pertaining to dentistry that had been published during the past year.

There were two papers announced for this section, one from

Dr. W. H. Atkinson, on Nomenclature, and the other on Preliminary Education, by Dr. J. N. Crouse.

DR. ATKINSON read his in part, but the paper being unfinished, he asked for further time to complete the same.

PRELIMINARY EDUCATION.

DR. CROUSE'S paper presented the advantages of the kindergartens, and manual training schools, in the early education of children. In substance, he said: "Man's best wealth ought to be himself, and how to develop that wealth was a question of great importance. Education is understood to be an accumulation of knowledge. Here is a young man that has passed the required college examination, receives his diploma, and is ready for the world. He is a rich man's son, and after he has gone through the ordeal, he becomes the flower of the family, with a so-called fashionable education. Such persons may think they have acquired all that is necessary to fit them for life's work, and yet they may be practically ignorant. It is not an uncommon thing to find a college educated young man not able to compete with the so-called ignorant young man of a poorer family. The former may have good book learning, but he has not received that instruction in the practical arts and workmanship that is almost indispensable for success in life. These very faculties are developed in our kindergarten and manual training schools. The kindergarten and manual training schools came about through experiment in this way, that the thoughts were made clearer, and more definite ideas were gained by the actual doing of a thing rather than by merely reading upon the subject, as it concentrated the mind which was absolutely necessary to make the impressions indelible. For instance, to the child when shown a block or stick and to the boy when he has whittled out that stick into some particular design," etc.

He further stated "that it was not alone the mind that needed training, but the hands as well, that both might work harmoniously. So beneficial has this system been that these manual training schools have sprung up in most of the large cities; and the indications in our schools, to-day, are to change from mere book learning to the training of both mental and physical faculties." He also stated "that, without realizing its educational benefit, our dental colleges have been training our young men in

this same way, which fact alone will account for their more rapid and thorough advancement than other professional schools. Let the gentlemen who are present think what an advantage it would have been to them if they could have enjoyed the benefits of the kindergarten and manual training schools like we have to-day, before entering into this profession; and of the advantages the future dentist will obtain by this early kindergarten teaching, then a thorough primary and intermediate instruction; and lastly the benefits of manual training schools. The system may be quite as thorough in book learning as the regular college course, and, in addition, we get the advantage of more thoroughly training the faculties by the development of mind and hands together.

DISCUSSION.

DR. W. H. ATKINSON: I must say a few words upon this subject of nomenclature. There is great need we have of the great work laid before us to-day. The trouble is there seems to be no one to lead the great majority to portray their ideas, so that the same word means the same thing, in all relations. In science, as well as in religion, when one makes advancement it so warms him that he wishes others to make the same advance. It was a serious mistake to so divide the work that it brought about a multiplicity of terms to express the same thing.

The review of Dr. Ottoby was a labored one, for which I render my hearty thanks. If we could grasp the point that the right thing to do was that which is next to us, and know that it was following the divine lead, we should accomplish more. The first thought is always the best; for the second thought is impregnated with Satan. I am led to take cognizance of the difference in the investigations between naturalists now and when I began my studies. Then we did know cleanliness, which is said to be akin to godliness. It would, however, be better spelled with two o's. Listerism, and all efforts in this direction of cleanliness, which is now being agitated among professionals, are but gropings after the truth which underlies the change of the great physio-chemical law. In cases of cadaver poisoning, poisoning by canned fruits, creams, etc., the physicians say it was caused by some mineral salt that was poisonous to the animal body and do not seem to catch, in investigating, the laws by which this retrogression is

made. All tissues must take one of three courses; first, their atoms must combine and produce growth, according to the natural law; second, they must be arrested in development; or, third, they must be torn down by disintegration. Until these chemico-physical laws are thoroughly understood, we cannot get a correct solution of these great problems.

DR. FRANK ABBOTT: In relation to dental education, Dr. Ottofy mentions the German system in a manner that would indicate, to the casual observer, that their methods of teaching are superior to any of our own or those of other countries. He takes the ground that the German government has control of its own schools. A teacher is selected by the government, empowered with the full control of certain departments. In the dental schools this is likewise true. In Berlin one man has full charge of the dental department. For instance, one man has entire charge of the operative department, and runs it according to his own views. He will not appoint any teacher under him who will not conform to his ideas and methods. Dr. Herbst not long since agreed to give a clinic of his method before the students of the University, but was informed that he would not be permitted to do so. In the United States, people have more of a knowledge of dentistry and value of dental services than in Europe, and are willing to pay more for dental services than over there, where the same low fee is charged for many different operations. This fee system has been the means of keeping dentistry down; but in America they have done away with it to a certain extent; but it can never be eradicated until those people are educated to a higher point in the principles of dentistry. This ignorance prevails yet to an alarming extent in most foreign countries. The dentists there, as a rule, are in degraded positions, compared with those of this country. In consequence, put one of those dentists over your patient, and you are disgusted with his workings, and so is he when he sees how poorly he is doing, compared with what is done here. In this country there is not that exclusiveness. Dentists here strive to advance the standard by giving their methods and means to all the profession.

DR. R. B. WINDER: We do need more advanced thought given to this subject of nomenclature. At present it is a difficult matter to find a name that will exactly express the meaning of a word. In microscopy, pathology, and other branches of scien-

tific research, we find different names advanced for the same object, according to the ideas of the specialist, until it is a vexatious subject to take up and study at the present time. In microscopy it seems as though the smaller the bug the longer the name. The great desire at present is to reduce nomenclature to a science, and systematize it so that the same term may be universally used to represent the name of the same object. Regarding what Dr. Abbott has said, there are more in this country who seem willing to cater to the foreign ideas, and want the basis of the American specialty so changed as to come up to their standard. That's just what we do not want to do. We never could satisfy them, and besides we do not want to turn out such dentists as they do. The fact is they are afraid of American dentists. This I know to be a fact; for a particular friend living there told me so. The object of their laws in Europe is to keep American dentists out of that country, and no matter how much we changed our teaching to conform to theirs, there would yet be loopholes and excuses to debar us from entering their fields.

DR. S. H. GUILFORD: I can but note the difference between the two papers. One is below the basis of dental education, and the other is high above our heads. Dr. Atkinson's ideas may be clear to him, but he certainly did not make them clear to others, myself at least. I am reminded of the saying of Victor Hugo when asked who the great French scholars were. He replied that there were but two. One, a lady who was now dead, and the other himself. The paper of Dr. Crouse was extremely elementary, and I doubt the propriety of bringing such a paper before a scientific body like the one assembled here. I notice some new ideas therein expressed. He said that this education was giving the student knowledge. Now I have always understood it meant to bring out the faculties that were in the pupil. I think Dr. Crouse undervalues the diplomas of the higher schools. In my observation the best students are those who have attained a college education. For by a good training of the mind, by a liberal education, it can grasp the subject more quickly, and is better prepared to grapple with the difficulties often encountered. This matter of manual training is all right enough for the child, but when we get older we do not need it. The individual who has this in him, will have it developed if the surroundings are fav-

orable. I have seen men who were well developed in manual training, also those who are not college bred; but we should not lose sight of the fact that there are higher aims than the mere training of the hands.

DR. ABBOTT: I am surprised and not pleased with the criticism of Dr. Atkinson's paper. Liberally educated men certainly understood it, and those who did not should be more liberally educated.

DR. J. N. CROUSE: I would have been much surprised at what the gentlemen said had I not had a talk with him this afternoon. I think these men ought to look into the workings of the kindergarten themselves. I am surprised at the wide-spread ignorance of the means of advanced education among teachers. I simply prepared the paper to show the advancement in this new line of study. I do not wish to be understood as condemning the entire college course; but there are many things taught there that are not of the least practical value, and much more could have been gained at a manual training school. Look at the Polytechnic College of Boston. Seventy-five per cent. of the students have positions engaged before they are through with their studies. There was a young fellow in the Chicago school who could construct a steam engine at the age of eighteen; and he left there to accept a position at a salary of \$2,000 a year.

DR. J. TAFT: In regard to nomenclature, the difficulty arises from a want of definite knowledge about the things to be named, and a lack of language. We have little difficulty in giving names to those objects with which we are perfectly familiar, and in recalling those names, as, we have no difficulty in remembering the names of those persons who are familiar to us, but more difficulty in recalling names of mere acquaintances, and we often entirely forget the names of strangers. In nomenclature, the object we know less about the more difficulty we have in nominating it in clear unmistakable terms, so that every one will understand them. The object should be named in such a way as to be readily understood by another. It is worth thinking about, and we should strive to correct our nomenclature. Another difficulty we have in understanding is that we are not well acquainted with things. For instance, Dr. Atkinson's paper was not well understood because of the unfamiliar terms he used. Many misleading names arise from force of habit; as, we speak

of the fang of a tooth. So in dental education there are various phrases. Dr. Crouse began at the bottom, and perhaps on a lower plane than necessary; for we are more concerned here now about that which draws out the powers of those about entering the profession. Many young men and women, who are not in the least qualified, get an idea that it would be a nice thing to study dentistry, and do so without further considering its vastness. The members of this profession should be more careful in selecting students. Let those who are capable, and have the dispositions, and are fitted for it, be encouraged; but the other class should be discouraged at the start.

Another point: We talk about the student. Who is the student? The man that cares for progression is a student all the way through life, and ought to understand this from the beginning. Young men often mistake these things, and enter college thinking that they will get out, and will have attained all the knowledge necessary for their life's work. Such men attain their highest point when they graduate. A retrograde movement occurs after that. There are many men in the profession who have not had, in early training, the advantages they should have had. I have often asked of these men, wouldn't you like to have an opportunity to improve yourself in the things with which you are not perfectly familiar? Would it not be a good thing to make provision in our colleges for advanced work? Some men can come in, say a few months at a time, and get hold of the points they do not well understand. It would draw many, many men, and I think would be the means of advancing the profession.

Now a word in regard to our teachers. How many of us are there that make teaching the work of life? How many make it only a secondary consideration? It would be much better if our colleges were so endowed that it could be made a life work. At least this a matter well worthy of our thought and consideration.

DR. C. R. BUTLER: In the compilation presented by Dr. Ottofy, he gives extracts of letters from the different colleges, and while most of them accept the propriety, or desire to advance the term from four and five to six and nine months, they bring in a number of excuses why it is not done. It is rather in keeping with announcements sent out by the different colleges, as to certain professors having charge of certain chairs, and students are to pay certain fees as their part of the contract. They claim that

if these colleges make that kind of an announcement, and pay their fees, they are entitled to that part of the contract. Not only this but their chairs often are not all filled, and if any lectures are omitted no rebate is made. I ask if this is a fair contract? If a man buys a piece of land, he expects to get what he pays for; and if there prove to be less land than that deed calls for, the contract is not valid. The same is true of the student attending college. If he pays his fees in full, he is entitled to all the lectures of the prescribed course, whether the term be four, six or nine monts.

Another point as to the German method of teaching being superior to ours: There may be a question about that; but there is no question but that the private hospitals in that country are different from the regular schools. You are obliged to sign a contract before being admitted, and the number is always limited. They are superior to ours. With all our facilities, which are great, they are not as faithfully carried out as they should be. The majority of men say we cannot give the time to this work, students cannot give the time, etc. Now there is no one but can spend the time if he wants to do so. For reasons heretofore stated, the contract of some of our colleges is not carried out as it should be.

DR. C. N. PEIRCE: The gentleman last upon the floor probably has never been a dean of any dental school, or he would have known that three-fourths of the letters received from those contemplating a college course, are inquiries as to how short a time they can go through school. In our school we have a nine months' course, the last term extending into the summer months, and lectures are delivered then to almost empty benches. The report of Dr. Ottofy was a very commendable one. It was the most admirable report ever given by that section. The paper on preliminary education was good in its way. I think you will all become aware of the good that can be accomplished by teaching methods that insist on precision. He here cited how unruly pupils were made good by becoming interested in this kind of work. In conclusion he said that this method would not only bring about better qualified classes, but better men in every respect, into our dental schools.

DR. E. T. DARBY: Advantages are unequally distributed. Some men want more than they can get, while there are others

who go through school with just as little work as possible. Take, for example, a rich man's son who has a plenty at his command. His ambition is to be a dude, or something of the kind, while across the alley, perchance, is a widow's son, who is thirsting for knowledge, but they have no means to obtain it. We find it the same within our colleges. We lose students every year because they cannot go to some college and get through in five months' time. The student who has just money enough to take him through school, must do the best he can, not as he would like. It is the man who pursues one special thing that gets on the best in the world. It is not always the men who have had a college course that make the best progress, even in our profession; for there are those who, while they may not shine like the cultured men, may be better operators and mechanical dentists. In college it is entirely different lecturing one day, from what it is in lecturing for five continuous months. I tell you that is hard work.

DR. W. C. BARRETT: In regard to nomenclature: We are all aware of the embarrassments which the speaker or writer has at times in endeavoring to correctly present his ideas in good language. But this does not arise from the lack of language, but comes through the introduction of foreign terms into our language. This constant multiplicity of terms brings a confusion that exists in our nomenclature. In the examination of an object each of us sees some special phase, and to that we desire to give a particular name. This special feature may be clear to us, without conveying a definite meaning to the rest of the world. As, for instance, Dr. Atkinson frequently refers to "angels" as the source of his ideas. This has no significance to the most of us. If an idea comes to us we elaborate it from our inner consciousness, and, therefore, have no use for terms that have no real existence and cannot correctly judge of his mind by the feelings of our own. Another source of perplexity arises from many being too ambitious in the use of big words and technical terms. Therefore there is a constant change by the introduction of these new terms, and this brings about confusion. At present we have but few dentists engaged in "mechanical dentistry." They are all practicing "prosthetic dentistry." Again, "metabolism" is a new term. Now, what is the matter with the good old term "digestion?" It is this inventing of several terms to express one idea, that brings about confusion. When we talk we should talk

to be understood. Reform should tend more toward simplicity, than big terms so common in our dental papers and literature.

DR. W. B. KNAPP: This question of a higher education is one that should interest every member of the profession. Dr. Ottoby has told us where we stand, Dr. Crouse has suggested the beginning of better things; and Dr. Atkinson has shown what may be attained. The criticism on the papers of the latter two was to the effect that one was too elementary, and the other two technical; but I think the papers were both right, but need a connecting link. Science is the outgrowth of reason. Colburn's arithmetic, which brought about a change for the better in this study, was the outcome of the author's recognition of the inherent "*why*," in every student's composition. The great trouble with the present system is not that it is too scientific, but is one of cramming, and the practical work of every day life is entirely left out.

DR. W. H. ATKINSON: Those of us who have been in this body ought, to-day, to be happy, hilarious, over the progress made in this direction. It is well enough to have old colleges, but not so old that they become hoary and defunct. The officers and teachers of these institutions should be inspired with the love of truth. It is not to any one thing that we owe the increase of colleges, but more to the inspiration of necessity. The confusion in our nomenclature arises from the men who know nothing of the classics trying to name the classics. The word digestion, does not cover metabolism at all. To progress we must hold ourselves ever in readiness to absorb every new truth when presented to us.

Section II passed.

(To be continued.)

NINTH INTERNATIONAL MEDICAL CONGRESS.

HELD AT WASHINGTON, D. C., SEPT. 5, 6, 7, 8, 9, AND 10TH, 1887.

[From advance slips supplied by *The Medical Record*, of New York, from its special report.]

MONDAY, SEPTEMBER 5TH—FIRST DAY.

THE Congress assembled in Albaugh's Opera House, and was formally opened at 11 A.M. by His Excellency GROVER CLEVELAND, President of the United States, who said: "I feel that the coun-

try should be congratulated to-day upon the presence at our capitol of so many of our own citizens, and those representing foreign countries who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty in this connection is a very pleasant and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

SECTION ON DENTAL AND ORAL SURGERY.

JONATHAN TAFT, M.D., of Cincinnati, O., President.

Secretaries—A. M. DUDLEY, M.D., of Salem, Mass.; F. H. REHWINKEL, M.D., of Chillicothe, O.

The President welcomed those present.

DRS. I. V. METNITZ, of Austria; B. McLEOD, of Scotland; and GREVERTS, of Holland, replied in behalf of the countries they represent.

The President then delivered his address, in which he reviewed the progress of dentistry in the last fifty years, and concluded by saying that although the past record was an excellent one, yet the goal is not yet reached. He urged the profession, through those present, to work in all earnest for a yet higher standard.

DR. R. J. PORRE, of Cincinnati, O., read a paper on

CHRONIC PYÆMIA FROM DENTAL ORIGIN.

The history of the case is as follows: The patient, male, good constitution and habits, suffered for the last thirty years from neuralgia, besides having constantly recurring furuncles and eruptions in various parts of the body, which would often for months become running abscesses. He experienced burning and itching eruptions of hands and feet, which would finally change to stubborn ulcerations. His bowels were either stubbornly constipated or exhaustingly loose. He suffered from frequent rigors and febrile attacks of varying intensity, profuse night-sweats, retention of urine, serious constriction of the bowels and urethra. Lancinating pains darted from the maxilla of right side to bowels, bladder, limbs, hands and feet, or to whatever part that was locally affected at the time. This latter peculiarity, together with the discovery of a little pus exuding from the locality of the wisdom-tooth, led to a final correct diagnosis of his case.

The tooth referred to was extracted, and a speedy and com-

plete recovery followed. As other sources leading to pyæmia and having their starting-point in the oral cavity may be mentioned pyorrhœa alveolaris, alveolar abscess, abscess of the antrum, and dental caries.

The doctor related ten other cases similar to the above, which all yielded to the simple remedy of removing the offending tooth.

DR. J. FRANK LYDSTON, of Chicago, Ill., said that both physicians and dentists should appreciate the important relation which morbid conditions of the mouth and jaws, and especially those which may be produced by septic absorption, bear to different general conditions. Septic matter is quite generally found about the roots of teeth, and may, under favoring circumstances, be absorbed into the blood, and there produce disturbances of greater or less degree.

The paper was further discussed by Drs. Walker, of London, England; Barrett, of Buffalo, N. Y.; W. J. Younger, of San Francisco, Cal., and Chance, of Oregon.

SECOND DAY—MORNING SESSION.

DR. WILLIAM CARR, New York, N. Y., gave a clinic on the

TREATMENT OF FRACTURES OF THE MAXILLE WITH MODIFIED INTERDENTAL SPLINT.

The majority of fractures of the inferior maxilla occur in the body rarely at the symphysis menti, but usually directly anterior or posterior to the mental foramen. A noticeable fact in connection with these fractures is that the victim rarely applies for treatment for several days succeeding the injury. He realizes that some of his teeth are loosened and also that he is painfully bruised, but does not seek surgical aid until he becomes alarmed by the increased inflammatory condition of the parts. There is but little difficulty in establishing a correct diagnosis, as usually the following symptoms are present: great pain in the effort to open and close the mouth, swelling, crepites, inflammation, inability to masticate, and marked irregularity of the teeth.

Treatment.—It is identical with that of other fractures, namely, to bring the parts into apposition and retain them firmly until ossification is completed. For treatment of fractures of the maxillæ there is nothing superior to the interdental splint. When properly adjusted, speedy union may be secured without deform-

ity of the jaw or irregularity of the teeth. Before taking the impression a careful examination of the parts should be made. Loose teeth and spicula of bone should be removed, and the parts should then be brought as nearly as possible to their normal position. An accurate impression should be made with modeling compound or wax. The material used should be as warm as the patient can bear it, in order to prevent unnecessary pain and also to prevent further displacement of the parts. The splint is made of vulcanite and covers all the teeth of the lower jaw, and all the teeth posterior to the canine in the upper jaw—leaving a space of about three or four lines through which the patient may receive nourishment. Small holes are drilled in the splint over the grinding surface of each molar for the purpose of ascertaining whether its adjustment is proper.

The splint should first be adjusted to the sound jaw, then gently bring the fractured jaw into position until it has passed about two-thirds of the length of the teeth—then with a quick, firm motion bring the parts into position. Next apply a four-tail bandage, which should be retained from three to five days; after this time, in the majority of cases, it may with safety be removed during the day but should be replaced at night until the removal of the splint. The patient should be furnished with an ordinary rubber syringe, and instructed to keep the mouth thoroughly cleansed. For disinfectants I use peroxide of hydrogen three per cent. solution, or a solution of bisulphate of soda in the proportion of 3 j to ʒj, of water.

In ordinary cases the splint should be retained for three or four weeks, according to the physical condition of the patient—unless unforeseen complications should arise. The application of the splint, combined with thorough cleanliness, will usually be all the treatment required.

The advantages, besides those previously stated, are that the patient experiences but little pain and inconvenience, and can, as a rule, attend to his business almost immediately after the splint is applied.

It is not necessary that all the teeth, nor, indeed, that any should be present in the mouth in order to make this splint serve its purpose. In the first case the rubber can be made to take the place of the missing teeth, and in the latter case a perfect adap-

tation of the splint to the alveolar ridges can be secured, and will be found to keep the parts in perfect apposition.

Should it be deemed advisable to place a splint in position within an hour or two after seeing the case, one can be constructed entirely of ordinary gutta-percha, with just enough wire inside to stiffen it. Dr. Carr demonstrated this method—it is very simple and can be made by any surgeon.

A number of gentlemen examined the principle and pronounced it very satisfactory in every way, the main points being its simplicity of construction, its effectiveness, and the ease with which it is adjusted and worn by the patient.

DR. E. BRASSEUR, of Paris, France, read a paper on

THE USE OF AIR IN DENTAL THERAPEUTICS.

The reader urged that the ordinary means, such as bichloride and biniodide of mercury and carbolic-acid crystals, for destroying microbes in the oral cavity, and especially in carious cavities of teeth, should be supplemented by the use of hot air.

DR. C. A. BRACKETT, of Newport, R. I., discussed the paper at some length, laying considerable stress on the efficacy of crystallized carbolic acid as a germicide in carious cavities in teeth.

Other discussions followed by Drs. James Truman and W. H. Morgan.

(To be continued.)

SOUTHERN DENTAL ASSOCIATION:

NINETEENTH ANNUAL SESSION, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by "Mrs. M. W. J."]

THE Southern Dental Association convened in its nineteenth annual session, at Old Point Comfort, Va., August 30th. The sessions and clinics were held and the displays of dental goods were made in the Hygeian Hotel building, where ample accommodations had been secured.

The meeting was one of the most successful, as well as enjoyable ever held. The attendance was very large, both of members and of visiting dentists from the north, east and west, and also a number of eminent practitioners from abroad, to all of whom the privileges of the floor were extended.

Every session was presided over by the venerable President, Dr. W. W. H. Thackston, of Virginia, the proud holder of the oldest dental diploma in the world.

Addresses of welcome and response were delivered by Drs. Prewitt, of Ky., and Turner of N. C., followed by the annual address of the President, which with routine business, occupied the first morning session. In the afternoon of Tuesday, Prof. Taft addressed the members on the subject of the International Medical Congress, inviting and urging all to be present, and share in the proceedings of the Section of Dental and Oral Surgery.

Dr. Geo. H. Torney, U. S. Army Surgeon at Fortress Monroe, was introduced to the Association. Dr. Torney's soldiers furnished abundant clinical material for the display of almost every method of operating known in the human mouth.

Prof. J. B. Hodgkin, of Baltimore, offered a motion calling for a committee to draft resolutions expressive of the loss sustained by the Association in the death of Dr. J. R. WALKER, of New Orleans, one of their oldest and most active members.

The committee was appointed with Prof. Hodgkin as chairman.

Wednesday, August 31, the opening paper was read by A. E. Baldwin, M.D., D.D.S., of Chicago, who had, by special invitation, prepared a paper for the Southern Association. His paper was entitled

IMMEDIATE ROOT FILLING,

of which a brief abstract follows :

The writer had seen so many failures following pulp capping, so many cases of abscesses treated, and root canals filled after pulps had been "successfully" capped ; a beautiful and interesting operation (to the operator) ; but too often followed by great suffering on the part of the patient, that he had come to believe the better plan to do, in all cases of real pulp exposure, to devitalize, remove the pulp, cleanse and dry thoroughly, and immediately fill. Only in children's teeth, where the mission of the pulp has not been fully accomplished, would be to try and save alive an exposed pulp. Where the trouble lies in the condition of the pulp chamber, root canals, or abscess, the cause is removed by the above procedure. While in case of necrosed conditions, nothing is accomplished by treatment through the root canals. After

removing all the contents of the root canals, as far as possible, he wipes out with 95% solution of carbolic acid, followed after wiping, by alcohol. Then follows the most important part of his treatment, which is the thorough drying of the canals and the dessication of the contents of the tubuli by means of hot air. On this he often spends from ten to fifteen minutes, until he is morally sure that everything is thoroughly dry. He uses liquid gutta percha as a root filling, pumping it in by means of a broach made of piano wire roughened by rolling under a fine steel file. When he considers the roots well filled, he heats a small piece of base plate gutta percha and places it over the opening to the root canals, with fine pointed instruments forcing the contents to the uttermost limits of the canals, and even into the mouths of the tubules. If the walls are perfectly dry, shrinkage will be towards the dry walls, to which the gutta percha will cling with tenacity. If any moisture is left in the cavity, gutta percha will shrink from the walls. Should subsequent abscess threaten, painting the gum with equal parts tincture iodine and tincture of aconite, will usually avert it. In case of freshly devitalized pulps, Dr. Baldwin waits a week or ten days before removing, giving it time to slough painlessly from the tissues. Teeth having abscesses with fistulous openings are immediately filled, blind abscesses being brought to the surface by puncture. The author of this paper thinks the importance of micro-organisms greatly exaggerated, pus formation without the presence of atmospheric germs being proved, in his opinion, by the pus formation in felon on the finger, or in acute synovitis of the knee joint. He also took exception to the great number of new remedies yearly recommended, believing that when carefully studied, a few will be found to meet all requirements.

DR. MARSHALL, Little Rock, Ark., next read a paper entitled

CONSERVATISM IN THE SELECTION OF FILLING MATERIALS,

briefly summarized as follows :

Duty to patients is above and beyond sentiment, transcending any hobby. If our judgment as to what is best in the case, conflicts with the wish of the patient, the operator should have the courage of his convictions. The esthetic should not be allowed to dominate the ethical.

Whatever material is used, the operator must have the individual ability to introduce it properly, artistic skill to reproduce nature, scientific knowledge to determine what is best. He should be acquainted with tooth structure and its ability to resist force, and should study the constitutional tónicity and age of his patient, the position of the cavity, etc. A writer in the *American System of Dentistry* says, there are some teeth so full of moisture as to continue to decay, no matter how filled, but Dr. Munhall has not found any to fail under the zinc phosphate cements.

A lengthy discussion followed the reading of these two papers, taking in almost the whole range of operative dentistry. Among those participating in the discussion were Drs. Winckler and Catching of Atlanta, Ga.; Storey of Texas; Kells and J. Rollo Knapp of New Orleans; Morgan and Freeman of Nashville; Richards of Knoxville; Beach of Clarksville, Tenn; the Eubank Bros. Birmingham, Ala.; Moore of South Carolina; McKellops of St. Louis; Allport of Chicago; G. F. Evans, New York; and Tandlak Sjelberg of Stockholm, Sweden.

Gutta percha, in points, or dissolved in chloroform, or dipped in alcohol till putty-like, oxychloride of zinc, lead or wooden points, rolled gold and gold wire, all had their advocates as being *the best* material for root filling. "Immediate root filling" found its zealous advocates and its earnest opponents. It was generally admitted that an abscess with fistulous opening, by one forming subsequent to root filling, or a blind abscess brought to the surface by puncture, could be perfectly treated from the outside, nothing being gained by keeping the roots open for that purpose. The question was asked why a 95% solution of carbolic acid was used? The reply being that perfectly pure carbolic acid was in solid crystals, the water of deliquescence forming the 95% solution, the only form in which it could be used for wiping out canals, etc.

The extirpation of pulps by driving them out with a carbolized wooden peg was largely advocated, especially by Drs. Winkler, Kells, Stockton and Beach, as being comparatively painless to the patient as well as a great saving of time.

DR. RICHARDS, (Knoxville, Tenn.,) uses arsenical paste, removing the pulp four hours after its application, when, he claims, the pulp is anæsthetized, and the operation painless. He applies a paste of 95% carbolic acid and iodoform, for twenty-four hours after removal to prevent septic formations in the root canals.

DR. WINKLER drives the pulp out and removes, treating with peroxide of hydrogen and waiting one day before filling. It was generally considered that there was but little danger to be apprehended from the contents of root canals which were too small to be entered with a nerve bristle.

DR. W. H. MORGAN, (Nashville,) drills out the root canals freely, with a view to cutting out the dentinal tubuli and their contents, preventing putrefaction and discoloration. Others failed having too frail a wall of cementum by this process.

DR. SJOLBERG, (Stockholm,) described the method of pulp amputation practiced in Sweden. Arsenical paste is applied for twenty-four hours, when the coronal bulb is amputated by means of a clean sharp bur. Bleeding having been arrested, a ball of paste made from carbolic acid and oxychloride of zinc, is applied over the openings into the root canals, and this covered with a platinum cap—the cavity being filled as deemed best by the operator, preferably cement next to the cap. This method is used only when the root canals are liable to be difficult of access.

DR. McKELLOPS commended the gold broaches introduced by Dr. Herbst last year, and which, in case of breaking, can be utilized as root filling without removal. The practice of capping pulps found very few advocates, except in the case of childrens' teeth where the pulp function is not yet accomplished, and its life is very desirable.

The thorough drying of dentine and dessication of the contents of tubuli described in Dr. Baldwin's paper was highly approved. This is accomplished either by long continued use of the hot air syringe, or by means of a bulb to which is attached a broach, the bulb being thoroughly heated, and the heat communicated through the broach to all parts of the cavity, and the root canals, till, to use the word of Dr. Allport, it "sizzles," and the fluids all boiled out. Gutta-percha root fillings will shrink towards dry walls to which it will adhere tenaciously, though shrinking away from moist surfaces inducing more moisture by capillary attraction and osmosis, causing the filling to become porous and offensive.

At the close of this discussion, the subject of root filling was passed, and the Association adjourned to 3 P. M.

(To be continued.)

Correspondence.

"I charge you that this epistle be read."

DR. GEO. WATT, EDITOR JOURNAL:—Allow me to describe my method of replacing teeth on celluloid plates. I prepare the plate just as if it were rubber, except that I cut away as little as possible of the plate. Wax up the tooth or teeth if necessary, but, if possible, place heavy (No. 60) tin foil over the tooth or teeth, on both the labial and lingual surfaces, and use no wax. Be sure and leave the lingual surface of the plate bare, and then when the flask is separated, take enough tin foil to equal in bulk twice or three times the amount of lost plate substance. Spread this over the lingual portion of the plate that is thickest. Bring the flasks together, and press the same as for a new plate. The tin foil forces the surplus celluloid around the tooth or teeth, and the work is done, and well done. No new celluloid should be added in any case. Old celluloid and new will not unite; but by the process described there is only one piece, and a plate can be mended as easily as a rubber plate, and better than in any other way. Celluloid can be properly worked only between metal plates. Worked in plaster alone it is worthless.

COLUMBUS, O., Aug. 19, 1887.

J. H. WARNER, D.D.S.

Compilations.

"Gather up the Fragments."

MEDICINE AND MONEY.

THE man who values his time and advice is the man who is appreciated.

He who sells himself for nothing generally gets all he is worth.

He who goes for half price when patients are able to pay a reasonable fee, goes for more than he would bring in the market.

Should two physicians living side by side charge the same fee? No. Let the one charge the accustomed fee and the other go below that, so the community can grade their worth accordingly.

A community never values a physician more than he values himself.

He who works for love may gain the reputation of a Good Samaritan, but Good Samaritans are not all good doctors.

No greater mistake was ever made than to impress the community that doctors are poor business men. Straight-forwardness, promptness, reliability and firmness are elements by which a man's qualifications are determined.

The world by some means has gained the impression that a physician without system in his business relations makes a poor medical adviser. Better to work up to the scratch than to attempt a reform in this matter.

The man of muscle expects his money when his work is finished. Is there anything in medicine or in the necessities and wants of a physician to justify a longer delay than with others? Nothing, only as doctors make it. Don't expect your fee right away and you won't get it.

Put off the presentation of your bill for a year and the patient will conclude that your services were worth but little and you knew it.

Never try to gain practice in a community by charges below the usual and reasonable fee. If you do you will move to another quarter and wonder why you were not appreciated.

The time has arrived when medical men must expect an immediate return for their services.

A physician's bill is a debt of honor. Bankruptcy cannot affect the obligation. The grocer and drygoods merchant may be put off a little, but the physician is more than tea and sugar, coffee and calico. He attends at all seasons and at all hours; he adds his sympathies and interest; he bears a part of the anxieties in the trying moments, and advises at all times in pain and peril. Don't tell me that such ought not to be rewarded.

The real business man charges for his services, and collects his bills. To such, a patient will say: "Here doctor, is your claim. I thank you for your kindness and attention. When my folks are sick, you are my physician."

Withal, be good to the poor. You have them always with you. It is often cruel to accept pay from them. Be systematic in business, so that you will be able to give when and where it is required — *American Practitioner*.

REMOVAL OF RIGHT HALF OF LOWER JAW BY SLOW
ENUCLEATION.

DR. JOSEPH W. HOWE sent a patient with the following history: Thomas R——, twenty-three years of age, was admitted to St. Francis Hospital with the following symptoms. On October 4th he received a severe blow on the under surface of the chin, which exposed the bone. The wound was sewed up at St. Luke's Hospital, but failed to unite. The jaw afterward became very much swollen and painful, and he sought admission to St. Francis Hospital. Dr. Howe made an examination in the early part of November, and found an extensive swelling extending from the symphysis to the posterior part of the ramus of the jaw on the right side, and a small hole running up under the chin behind the jaw, which led to the dead bone. The teeth on the affected side were loosened, and the alveolar process stripped bare and rough and bathed in pus. Pressure on the outside, over the jaw, forced a quantity of pus out, both from between the periosteum and bone and external to the periosteum. The periosteum was separated along the upper line of the jaw back to the ramus, and in some parts had been completely destroyed. The lower teeth were removed from the jaw the following day, and a portion of the periosteum separated. This process of separating the periosteum from the bone was repeated at intervals for several weeks, while the parts were thoroughly cleaned and the patient's general health was kept up by tonics and stimulants. With the stripping of the bone, the periosteum gradually thickened so as to increase the swelling on the affected side. Three weeks previous to the first operation he made a careful examination under ether, and separated the greater portion of the periosteum and other tissues from the bone. Pieces of lint steeped in carbolic acid and glycerine were placed on each side of the dead jaw, and the patient was allowed to return to the ward. More swelling and fever followed the operation. On the following Monday he completed the operation, removing the last attachment at the symphysis and pulling out the diseased jaw, leaving behind a good basis for a new jaw in the ossifying periosteum. The slow enucleation of a diseased jaw is a comparatively simple process; very

little force and very little cutting are required to remove it. The patient has now a new jaw, which has grown from the old periosteum.—*Medical Record*.

Editor's Specials.

"Write the Vision and make it plain."

A LESSON IN RHETORIC.

BUT what has that to do with dentistry, or dental journalism? "Much every way"; for we find it in a dental periodical—no matter which—published—no matter where—edited by—no matter whom—the auctioneer would say, "Too tedious to mention."

True to our Scotch blood, we memorized the "Shorter Catechism" before we could read, and if such was the *shorter*, we didn't want the longer—or "Larger." But this lesson is a question out of the "Larger Catechism," in fact a goodly distance out. This is it:

"QUERY—What is the meaning of the Chicago Dental Review Company giving wide circulation to a neatly bound pamphlet containing those famous speeches by Drs. Kingsley and Flagg delivered at the Northern New Jersey Dental Society, long after the meeting of the American Medical Association with its concessionary resolutions calculated to put this question in its grave?"

[The OHIO JOURNAL was never good on conundrums, and gives it up, but suggests that probably "the court understands himself, or at least she think it do," and so advises that the "C"(ase) be referred back for a new decision. But why put it "in its grave?" Its ghost "will not down."] But the lesson continues: "It would seem as if there was a hankering tendency in some quarters to continue the agitation of that very slippery umbilical cord, almost before we have had an opportunity to get fairly astride of it and enjoy the fruition of our fond and long sought hopes."

[We fear the teacher who gives us this lesson doesn't read the OHIO JOURNAL carefully. We advised you not to talk gynecology when physicians are listening. This one is venturing very

close to forbidden territory. The JOURNAL man is practically very familiar with all kinds of cords, as he lives beside the three largest twine factories in America. He never knew the kind named in the lesson to suffer from "agitation," but has been often glad to find *pulsation*. And he has known the little hero at the distal end to have a cord once or twice around his neck, as if he expected to be a sheriff, and was practicing a possible official duty; but he never found him astride of the cord, fairly or unfairly. But hold! that's not the figure. Not the possessor, but the attendant is to improve the "opportunity to get fairly astride of it." That is, if the JOURNAL understands the lesson, like little boys on switches, we are, in answer to "concessionary resolutions," to ride into the medical profession, each one "fairly astride" of an umbilical cord. The JOURNAL man is glad he got his back broke, and can't go. And all this is to be done that we may "enjoy the fruition of our fond and long sought hopes."

Sing brethren—

"This is the way I long have sought,—"

and will the Chaplain elect again lead in prayer?]

The rest of the lesson is, "If the great medical profession stoops to honor us by making us an appendix vermicularis, why should we carry *retroussé* noses before we have hardly commenced to breathe this truly constituted professional air of our new position."

That ends the lesson, and we have given it in fragments, because, in its entirety, it was too much for the head. We have known of sharp discussions as to the function and use of a certain appendix; but it seems "to breathe." Well, our lungs need help, so we hope we have an "appendix vermicularis."

"If the great medical profession stoops to honor us—" Nay, verily! Rhetoric is rhetoric; but are physicians on a higher plane than dentists? We have helped to make and elevate their curriculum, and, on top of this, have carried our own specialty to heights clear beyond their loftiest conceptions, till we called down to them to look up.

But why give so much attention to such a paragraph? Not because of discovered merits, but for the fact that some thirty to eighty of our "best dentists" are more or less directly responsible for its promulgation, and for its being "such matter condensed as is of practical importance to the profession, and made so interesting that the busiest or the laziest dentist will read."

Rhetorical figures often add to the beauty of language. If not apt they obscure the meaning. The JOURNAL has made an honest effort to *figure* out a true interpretation of this paragraph. If it has not succeeded, the reader is referred to the lawyer that understands the inter-state railroad law.

POINTED EXPRESSIONS.

OUR Anglo-American language when properly used will express the clearest and most condensed thoughts that the human mind can yet conceive; and when human thought has reached a higher plane, it will be found that it carried the language up with it. True, tyros, dudes and snobs often complain that language fails, but the failure is in not knowing how to use it. And often, too, we find classical "john horses," who would pass for *donkeys* but for their "sheepskins," denouncing English, in bad grammar and worse rhetoric, while eulogizing ancient Greek and Latin, as quite superior. But if either had been half as good as our own dear mother tongue it would not now be a dead language.

Our language can express much truth in little space, especially when anglo-saxon words are mainly used.

These thoughts have been suggested by two expressions, of one we give in substance, as remembered from a single hurried reading: Dr. Kingsley says that if the medical schools and the physicians were at once blotted out of existence, dentistry would experience no shock. That is a strong expression; but is it not true? No doubt slight inconvenience would be noticeable, but this would serve to stimulate dentists to higher and deeper research in science and art, with the result of more rapid dental progress. But if the suggested blotting out catastrophe should occur, what would be the condition of the oculists, aurists, and other specialists? A statement similar to Dr. Kingsley's can not be truthfully made of any other medical specialty.

Now, if this is true, does it tend to show that Dentistry is not a specialty in Medicine? By no means. The teachers and practitioners of dental surgery may, and we believe they do constitute an independent profession. But that says nothing about Dentistry not being a specialty in Medicine. The two propositions are separate and distinct. Dentistry has the health and usefulness of the human teeth and their collateral organs and

tissues as its aim and object, and it has the materials and forces of the universe, as far as available, for its instrumentalities. Thus it will be seen that Dentistry bears to the part of the human system that it has selected, exactly the same relation that Medicine bears to the whole system. It is nothing against the science of Medicine that those who claimed to practice it neglected the teeth and appendages for decades of centuries, and thus forced society to call for dental surgery. A counterfeit bill is a credit to the bank, as a hypocrite is a compliment to christianity. The *wholeness* of Medicine must include every legitimate effort that makes for health. Those who claim and attempt to practice Medicine in its entirety are not necessarily blameworthy. It is not uncommon for a child to bite off more than it can chew, and humanity is yet in its childhood.

But shall we have separate schools for the specialties? Is it not well understood that the progress of dentistry, surpassing that of any other specialty, has been gained through its special schools? Association with medical schools and universities, as a mode of training dentists, is in its infancy yet.

At best we can only approximate perfection in science. There is not a perfect anatomist or physiologist in the world. Send a dental student to a medical school to study foundation principles, and he is like an overplus pig in a litter. The professor of anatomy will devote six to eight hours in the hernial region, and pass over the oral region in less than one. This is a true description as we have seen it, and we find no fault with it. But with the entire class composed of dental students, the process would be reversed.

The other concise and pointed expression referred to is from the late Professor Gross, as follows: "Dentistry is the most important specialty in medicine. Many people come into the world and go out of it, who never require the services of other specialists, but no child is born who does not sooner or later require the services of the dentist."

These words are worthy of the great man that uttered them, and carry with them full conviction of their truthfulness. And this makes the almost total neglect of the dental organs, till a recent period, seem all the more strange. Civilization had become desperate concerning the teeth, and cried for relief with a loud and bitter cry; and Dentistry, and as many of her sons as she

could muster, ran to the rescue, and were playing on the ruins before their mother, the Medical Profession, knew they were out. The cry, in its fierceness, was according to the alarm in its sharpness, and the response, in its promptness, energy and persistence, is in correspondence with both. And hence, dental surgery has grown faster than anything known on earth, except the tree that drew its roots out of the ground by its rapid growth.

Worthy to associate with the two expressions already noticed is the late Professor Van Buren's definition of surgery, thus: "Surgery is that branch of the healing art which takes charge of all diseases and injuries which require in their management the use of instruments and mechanical appliances, operations, or especial manual dexterity." If the Professor's leading intent had been to include dental surgery in his definition, he could not have done better. Mechanical tact and talent are vastly important to the surgeon. He is in a pitiable plight when he has to employ others to saw, hammer, plane, drill, chisel, and file, in the construction of special apparatus. Few mechanics can work as he instructs, and still fewer will. The late Professor Thomas Wood, one of our dearest friends, owed a part of his reputation and skill in surgery to his great mechanical talent, and to further this he took several mechanico-clinical courses in the laboratory of the Ohio College of Dental Surgery, in which for years he was Professor of Anatomy. When he could not find appliances in the market to suit him, he made what he wanted.

When a beardless youth, the writer of this practiced medicine in a small village. An appliance not on sale was wanted. We carved an accurate pattern in wood, and left it with a gunsmith to be reproduced in steel. A dromedary resembles a roadster horse more closely than his machine did the pattern. We asked him to try again while we watched his progress. Seeing an early mistake we called his attention to it. With impatience and anger he said, If you understand the trade better than I, there's a forge, anvil and tools; make it yourself. Taking him at his word, we made the appliance; and by its aid, a woman who had not walked in two years, was restored to active life and the discharge of her household duties.

Now, "the moral of this is the application of it." That is if it has any moral, which seems doubtful. But, at any rate, let us all try to boil down and filter our thoughts till we can express

them with the pointed clearness found in the expressions to which we have referred. But none of you can do this without effort. So try "your hand and pen," each of you in a short or long article for the OHIO JOURNAL, and if, as likely to be, they are a little better than our own composition, they will be set before the profession in plain type.

ENGLISH AS WRITTEN.

WIT is cheap when the buyer is careless as to its quality. Bad spelling is very witty ; and bad pronunciation is still more so. It is very funny to say "dorg," "purp," "hoss," etc. Bad grammar and rhetoric, however, furnish the first premium wit of present dates. For instance, a wit (?) who is paid by the line, starts off with, "English as she is Spoke," for a headline, and he follows with a lot of uncouth and incorrect sentences which he charges to a class of school-children. And though everybody takes for granted that the pupils are imaginary, and the phrases made for the occasion by the writer, the comic papers circulate and pay for the stuff, as if both witty and authentic.

Instead of holding up to ridicule a class of inexperienced school children, who lack opportunity to defend themselves, these writers would better each take up his own or his neighbor's composition, and if a close critic he will find many mistakes and inelegant expressions that the average school girl would correct in revising her own, or in reviewing his writings. But the pupils can endure such softened wit, and the great human race will be run according to program.

It is easy to criticise others, but not so easy to write faultless language. A paragraph may be grammatically accurate, while its rhetorical arrangement is inelegant. Some, and perhaps a majority of writers, try to avoid terminating a sentence or paragraph with a preposition. Such endings may be strictly grammatical, however. Not long ago a senior class divided equally on this question, and referred it to the President of the University. He advised them to listen to a lecture on drunkenness the next evening at the church. The lecture lasted an hour, and was *extempore*, yet the testimony of the twelve critics is that not a sentence

ended with a preposition. If the termination is inelegant, it can be avoided.

The misplacement of qualifying words results in a majority of the mistakes found in English composition. In a majority of instances the word "only" fails to qualify as intended. Let a very few specimens illustrate: Deacon Burdette says, "The entire army only numbered 147 men." Numbered only 147 is the true text of the deacon's doctrine, but he failed to have his creed well in hand. A foreign correspondent of a leading medical journal says, "The college buildings were only erected in 1854," yet from his same letter we learn they were equipped and occupied the same year. Erected only in 1854 says what he means. Also he says, "a gentleman was selected to fill the post who has only been qualified two years." *Only two years* sounds better. The *Pall Mall Gazette* lets its Paris correspondent say, "We only employ Frenchmen," *only Frenchmen*, to the exclusion of Germans, is learned by the context. In a paper read at a late meeting of the *Ohio Teacher's Association*, a teacher of half a century's experience is found thus: "We were only counted for what we were worth." *Only counted?* Were they not estimated? regarded? held for what they were worth?

And so we could go on for a dozen pages, selecting from only standard writers. But take a correct specimen: Speaking of a new novel, Mr. Howells says, "I began it only day before yesterday." Had he followed the common error he would have said, I only began it—. Oliver Wendell Holmes places the word correctly thus: "One is sometimes tempted to wish that the superlative could be abolished, or its use allowed only to old experts." He does not say *only allowed*.

But this is only one of many. In almost any book, magazine, or newspaper, errors and inelegant expressions may be found in abundance. Time and space will not permit specimens here. Let us all try to improve ourselves rather than burlesque beginners. Send us items and articles for the JOURNAL, and if your language is accurate and elegant it will be appreciated, and if otherwise, it will not be out of fashion.

IMPLANTATION OF TEETH.

SOME discussion on this subject occurred in the Section on Surgery of the New York Academy of Medicine. The foundation of this was a paper read by Prof. Abbott. (See *Medical Record* July 9th, 1887, p. 58.)

Dr. R. T. Morris "suggested that it would be better to allow the pulp of a freshly extracted tooth to remain to aid in the repair incident to giving the implanted tooth firm position."

Dr. Abbott replies that "so far as removal of the pulp was concerned, it was supposed many years ago that when a tooth was extracted and at once placed into a socket in another mouth the nerve and blood vessels would unite. But it was soon learned that union did not occur; so it had been decided to remove the pulp and seal the cavity with some cement substance before the tooth is inserted."

The removal of the pulp may be, and probably is good practice, if the tooth is to go into another mouth, and especially if into an artificial socket. But if lost by accident, and is to be replaced in its own socket, we much prefer to preserve the pulp. We have replaced many in this way, and recall but one failure. Dr. J. Taft replaced an upper bicuspid in this way more than forty-four years ago, and the tooth is yet perfect in all its relations. Does any one believe it would have done better had the pulp been removed? This tooth was out but a few minutes; but a boy had a central incisor knocked out while coasting at Xenia—and at zero. The tooth lay on the snow till its pulp was frozen. It was replaced in the socket, gave no trouble, and is to-day every way perfect. The accident occurred in 1870.

As a general rule dentists have not sufficient confidence in the reparation of nerve tissue. And this is not strange after having been so often told that lost nerve structure is never replaced. The professor of physiology would tell us that, and the next hour the professor of surgery would remove an inch of nerve trunk to relieve neuralgia, and tell us the relief would be only temporary, as the lost tissue would be replaced by a substitute.

We are not familiar with the implantation of old and kiln-dried teeth; but we are expecting a call from a man wearing a

central incisor that grew in the mouth of Rameses II. He is said to be a follower of Fourfang's show. For particulars "see small bills," or, better still, listen to some windy speeches at the dental societies.

But, seriously, the cementum is unique, and we have not yet found out all about it. It is not always dead when it sleeps. A tooth which has been extracted for months or years, may not regain vital circulation through its dentine by placing it in an artificial socket, but unless circulation is established in the cementum, the tooth so placed can not well be other than a foreign substance. A piece of wood or porcelain the shape of an incisor root, would not be fastened in an artificial socket by the formation of new *alveoli* and membranes. There is danger, however, that each ambitious dentist will try to secure *stale* teeth for implantation, instead of those fresher, as a sort of advertising dodge. But after all, this implantation is not more marvelous than sponge, or caoutchouc grafting. And may it not be analogous to fruit tree or vine grafting? The judicious nursery man prefers grafts cut the fall before he expects to use them, and this because they are more likely to grow. With the fresh tooth, septic influences may set in and defeat the operation; but this is less likely to occur with a stale, or dead tooth.

Those who hold that an implanted tooth is held in its new socket simply by mechanical influence possibly fail to remember that a wedge gives way big end foremost. The roots of teeth are *wedges*—were they "dove-tails," mechanical force might retain them.

NOT SEASONED WITH SAGE.

WE are *Frank*, in saying that we find the following nonsensical superstition in the *Cincinnati Medical and Dental Journal*, and we are glad it is not in the dental part of the *Journal*. It looks as if the printers had put it in to fill a page. But here it is:

"CREMATION IN CINCINNATI.—The new Cincinnati Crematory has been tried and works admirably well. There is no longer need to contaminate the soil, water and air with decomposing dead, for they can be cremated with neatness and celerity. Death will be robbed of half its sting when we know our bodies are not to become food for worms."

The nonsense is in the closing sentence. The preceding is merely a running jump, to reach it. This is the evening of the nineteenth century. The sentence alludes to modes of burial nineteen centuries ago. A cave with a stone placed against its mouth may save a dead body from vultures and hyenas, but not from *flies*,—hence maggots, called *worms*. But where are worms found in present modes of burial? It is wrong to encourage superstition, even though there is no objection to cremation.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

COCAINE IN BURNS.—If a solution of 1 part of cocaine in 40 parts of liquid paraffine be applied to burns, the pain ceases, and the healing process generally progresses favorably.—*Archives of Dentistry*.

ROOT CANAL DRESSING.—Eighty parts iodoform, fifteen parts oil of cinnamon, and five parts finely powdered ground coffee, packed into a foul root, will disinfect it, and also prove a very agreeable dressing.—*Dental Review*.

BENZOINE FOR ULCERS.—DR. WASKRESENSKI recommends for ulcers benzoine in the form of an ointment of the strength of four drachms to the ounce spread on lint, and renewed twice a day, with excellent results.—*Med. Register*.

THYMOL FOR TOBACCO BREATH.—DR. G. F. SHRADY says in *Dental Record*, that a solution of thymol, employed in the form of a mouth-wash and gargle, is very useful in destroying the odor of tobacco which remains in the breath after smoking.

LOCAL REVULSIVE ACTION OF IODINE.—If a piece of absorbent cotton wet with tincture of iodine be held in contact with the skin, any desired amount of revulsive effect may be obtained, even to blistering or the formation of an eschar.—*Le Normande Medicale*.

FORMIC ACID AS A DISINFECTANT.—DR. VOITOFF, who has made a number of experiments on cultures of pyogenic micro-organisms, says that formic acid is a specific against their success, and so may be considered as an excellent disinfectant.—*Med. Register*.

BE CAREFUL IN USING CALCIUM SULPHIDE.—In pericementitis or alveolar abscess when sulphide of calcium is used, care should be exercised, as certain idiocyncrasis give evidence of marked eruptive diseases from the action of this drug.—*British Dental Journal*.

TO REMOVE STAINS OF IODINE FROM THE SKIN.—The sulphide of sodium, or sodium sulphhydrate, in a ten or twenty per cent. watery solution, applied upon a compress, will remove the stain of iodine, as well as allay its irritant action when excessive.—*Phila. Med. Times*.

TREATMENT OF CATARRH OF THE ANTRUM.—M. COMBE recommends trephining in the treatment of chronic catarrhal inflammation of the antrum of Highmore, and subsequent disinfection by iodol, which, on account of the absence of odor, is preferable to iodoform in such cases.—*Medical Record*.

SUB-IODIDE OF BISMUTH AS AN ANTISEPTIC.—PROF. GROSS states that he believes sub-iodide of bismuth is destined to replace, to a great extent, iodoform in the antiseptic treatment of wounds. It is being extensively used at the hospitals, and as yet, with none but most gratifying results.—*Dental Register*.

TO FACILITATE THE MELTING OF GOLD.—Gold will melt only at a comparatively high temperature, as we all know, but what is not generally known, the *Jeweler's Journal* says, is that if two per cent. of silica be added to the gold, it can be melted over the flame of a common candle.—*Western Dental Journal*.

CAUTION IN ANTISEPTICS.—In using antiseptic agents for washing the hands it will be well to remember that corrosive sublimate, iodine, and permanganate of potassium are all incompatible with soap; carbolic acid is incompatible with permanganate solutions; and corrosive sublimate is incompatible with oils.

AN EFFICIENT MOUTH WASH.—Take resorcin, two drachms; vol. ext. eucalyptus, 1 drachm; aquam ad four ounces; mix, rub up with magnesium carbonate, two drachms, and filter. One teaspoonful to the tumbler of water used frequently as a wash for spongy gums, stomatitis, or after extraction, will be found valuable.—*British Dental Journal*.

BEST TEMPERATURE FOR CEMENT MIXTURES.—Strict attention should be paid to the temperature when mixing cements for filling teeth and other art purposes. Heat hastens and cold retards the process of crystallization. There is more difficulty when the temperature is higher—an even one of about 60° is best for most cases.—*Caulk's Annual*.

INSOLUBLE CEMENT FOR GLASSWARE.—Glue to which bichromate of potash has been added, and which has afterward been exposed to strong sunlight, becomes insoluble. The proportions are not very well ascertained, but about 1 part of the bichromate, dissolved in water, and added to a solution of 6 parts of solid glue, answers very well.—*Scientific American*.

TO REPRODUCE A FRACTURED PLATE.—Bring the parts together and fasten with wax; pour plaster on the palatine portion, and after it hardens invest as if it were wax. Heat in a dry cast porringer till the flask opens easily; remove the rubber, cut vents and proceed as usual. The plaster is much strengthened by the heating.—WALTER STUART in *Items of Interest*.

THE ALTERATION OF VULCANIZED RUBBER, according to Pharmacist MAJOR BALLAND, is owing to the formation of sulphuric acid, resulting from the slow oxidation of the sulphur employed for vulcanizing. To prevent the destructive change, he recommends a simple washing of the objects with plain water or water slightly alkaline, repeated every two or three months.

TO REMOVE BROKEN BROACHES.—I have been quite successful in removing broken broaches by loosely filling the canal with a few fibres of absorbent

cotton dipped in a saturated tincture of iodine. Leave it from two to five days, when usually both can be removed together. Any discoloration (from the iodine) can be removed with aqua ammonia or alcohol.—E. L. CLIFFORD in *Dental Review*.

PRECAUTIONS FOR ETHER.—DR. JNO. PACKARD says: In my opinion, as to ether, it is criminal carelessness to use this powerful and dangerous article without means at hand for combating its effects, if need be. The operator should always have an experienced and careful administrator, who should attend to nothing else, and brandy, ammonia, a hypodermic syringe and a galvanic or electric battery should be in readiness for instant use.—*Daily Times*.

THE DANGER OF SUBMUCOUS INJECTIONS OF CHLOROFORM.—The injection of five or six drops of chloroform beneath the mucous membrane of the gums for the relief of tooth-ache has recently been advised, but Dr. Blocq asserts that this procedure is not free from danger, and relates a case in which it was followed by extensive and painful swelling of the face, with necrosis of the mucous membrane of the upper lip and gum, resulting in prolonged suppuration and superficial necrosis of the jaw.—*Centralblatt*.

PYEMIA FOLLOWING THE EXTRACTION OF A TOOTH.—DR. ZARRADSKI, of Warsaw, reports a case of fatal septic pyemia from the extraction of a tooth. One of the lower molars was extracted, in consequence of which the patient's face became greatly swollen, and on the third day rigors and fevers came on. After lingering nineteen days, the patient died. At the autopsy necrosis of the inferior maxillary was found at the point where the tooth had been extracted; the temporal bone was infiltrated with pus, and the dura mater of that side was covered with offensive pus. The soft parts adjacent were infiltrated and the veins were filled with pus.—*Druggist's Circular*.

AN EASY METHOD FOR LIQUEFYING CARBOLIC ACID.—We find in the *Western Druggist* the following method of dissolving carbolic acid. It saves a great deal of trouble and prevents the frequent breaking of bottles through the heat required in melting the acid:

"The plan is a very simple one, consisting in the addition of sufficient alcohol to completely fill the empty space usually found in pound bottles of the acid, corking the bottle and inverting. The alcohol will gradually rise through the acid, dissolving it in the course upward until in two or three hours all the acid will have passed into solution."—*Pac. Record of Med. and Pharm.*

BRIDGE-WORK FLUX.—A flux that is exceedingly useful in bridge-work is prepared as follows: Put in a cup, boracic acid, 1 oz.; ammonia, $\frac{1}{2}$ oz.; carbonate of ammonia, $\frac{1}{2}$ dwt.; bicarbonate of soda, 2 dwt.; and water, 4 ounces. Boil until the fumes of ammonia are no longer given off. Coat the bridge or other work all over the gold with the flux. Heat it over a spirit-lamp to dry it on. Give it another coat, if needed, leaving no part exposed. Then scrape off where it is desired that the solder shall flow, and it will go nowhere else. The work will come out of the heating as bright as when it went in, and the solder will be smooth. The polished surfaces will not be corroded or blackened.—H. W. HOWE in *Independent Practitioner*.

TREATMENT OF SORE GUMS.—Iodphenolum is prepared by mixing equal parts of tincture of iodine and crystals of carbolic acid. The affected parts should be wiped with a pellet of cotton, and the bleeding thus produced should be checked by rinsing the mouth with cold water, and after having dried the sore, the remedy should be applied with a camels hair brush protecting it from moisture until the iodphenolum has become dry. The application may be repeated for a second, third and fourth time, under which treatment the disease generally yields. As a mouth wash he recommends the use of a solution of carbolic acid (1-1½ per cent.) in water, adding either rose or peppermint water to flavor; glycerine also may be used.—*Deuts. Monats.*

CHEAP METHOD OF PLATINIZING METALS.—In this new process the metallic object is covered with a mixture of borate of lead, oxide of copper, and spirits of turpentine, and submitted to a temperature of from 250° to 330°. This deposit, upon melting, spreads in a uniform layer over the object. Then a second coat is laid on, consisting of borate of lead, oxide of copper and oil of lavender. Next, by means of a brush, the object is covered with a solution of chloride of platinum, which is finally evaporated at a temperature of not more than 200°.

The platinum adheres firmly to the surface, and exhibits a brilliant aspect. If the deposit be made upon the first coat, the platinum will have a dead appearance. Platinizing in this way costs, it is said, about one-tenth the price of nickel plating.—*Le Genie Civil.*

MIXING CEMENTS.—It is a difficult matter to thoroughly incorporate the powder and liquid of zinc phosphate fillings on a plain glass or porcelain slab, if the proportions of powder to the liquid are to be the greatest, so as to make a putty-like mass, because the first crystalization begins before the mixture is complete, but, if a piece of heavy French plate glass be carefully and finely ground on both sides, either side is ready and the other surface will be less likely to slip on the table while mixing, a very annoying occurrence if the left hand is occupied at the patient's mouth. A ground surface prevents a slipping and dodging about of the materials; so that with the quickest setting cements, a stiff mass is rapidly mixed with a broad flexible spatula—don't use any other form of spatula. To clean the slab put it in water for fifteen or twenty minutes and it will wash up as nicely as plain glass.—A. M. Ross in *Archives of Dentistry.*

COMPOSITION FOR DUPLICATING MODELS.—As I have much improved the duplicating composition which was brought under the notice of the Society two years ago, I have much pleasure in forwarding a sample for the members' inspection, also a model and piece, showing the perfect accuracy of the duplicate. In working the composition, I found that it absorbed water and tended to impoverish the material and destroy the perfectness of the duplicate obtained. After trying several varnishes, and finding each defective, I think I have obtained the desideratum in a solution of india-rubber and benzoine. The solution is floated for a moment over the composition, and the surplus instantly poured off, and there is left behind an almost imperceptible coating, which is absolutely waterproof. As it now stands, I think it is perfect, and would feel pleased by members trying the composition and varnish, and at next meeting giving an expression of opinion.—*Whitehouse in Dental Record.*

PERSISTENT YAWNING AND SNEEZING AFTER THE EXTRACTION OF A TOOTH.—

A case of a somewhat remarkable character is at the present time in the London Temperance Hospital, under the care of Dr. R. J. Lee. A girl, aged fifteen, had the last molar in the lower jaw on the right side removed about six weeks ago. No anæsthetic was administered. She was in perfect health at the time. Half an hour after the operation she began to yawn, and has continued to do so constantly since. One yawn succeeds another without interruption, and with an interval of two or three seconds. Galvanism had been tried without effect and other remedies previous to admission into the hospital. Three days afterward the yawning turned to sneezing, and recently she has suffered from constant and rapid succeeding fits of sneezing, each of which paroxysms appears to begin with a yawn. She seems to have no power of controlling herself, or only to a very slight extent, and if she attempts to do so, the next sneeze is more violent.—*Lancet*.

LATE DENTITION.—DR. DOLGOPOLOFF saw a curious case of an elderly but still hale and sound nurse; aged sixty-eight, who had long before lost all her teeth except four lower incisors, and in whom two new upper middle incisors appeared, first the right one (at 67), and about one year later the left. On both occasions the dentition was accompanied by severe headache, loss of appetite, vomiting, diarrhœa, slight febrile movements with shiverings, rapid action of the pulse, and aching and dragging sensation in the gum. While her old teeth were dark gray, the new ones had a milky color with a bluish tint; they were competent even for such work as biting sugar. Dr. Dolgopoloff emphatically draws attention to the fact that dentition in his patient was accompanied by a set of symptoms which obviously had a reflex origin, and which are only too well known in cases of teething at a somewhat earlier age, though some sceptic minds attempt to explain away those irritation-phenomena by a simple coincidence of events.—*Medical Record*.

SIMPLE METHOD OF ARTIFICIAL RESPIRATION.—J. A. FRANCIS, in *Brit. Med. Journal*, describes a simple method of artificial respiration which, he alleges, combines all the advantages of the Marshall, Hall, Sylvester, and Howard methods, without any of their disadvantages. The plan is as follows:

The body of the patient is laid on the back, with clothes loosened, and the mouth and nose wiped. Two bystanders pass their right hands under the body at the level of the waist, and grasp each other's hands, then raise the body until the tips of the fingers and toes of the subject alone touch the ground; count fifteen rapidly; then lower the body flat to the ground, and press the elbows to the sides hard; count fifteen again; then raise the body again for the same length of time; and so on, alternately raising and lowering. The head, arms, and legs are allowed to dangle down quite freely when the body is raised. The author alleges that this method is most successful, and it is so simple that any one can perform it without any teaching.—*Scientific American*.

TO ARREST THE GROWTH OF CANCEROUS TUMORS—In the *Lancet* of May 7, 1887, DR. PETER HOOD publishes a communication upon this subject in which he states that although his opportunities for employing it in suitable cases have not been large, the results which he has attained through its use have been very satisfactory. He refers to several cases in which a persevering use

of the calcined oyster-shell powder arrested the growth and pain in tumors undoubtedly of a cancerous character. Dr. Hood urges the persistent and fair trial of this remedy in cases of cancer, where the nature of the affection is early recognized. It can do no possible harm, it need not interfere with other remedies for the relief of pain, its action can be referred to an intelligible and probable hypothesis, and it has been of utility in a sufficient number of cases for warranting us in reposing some confidence in its use. An advantage of the treatment is that the remedy may be readily prepared at home by baking oyster-shells in an oven, and then scraping off the calcined white lining of the concave shell. The substance thus obtained is to be reduced to a powder, and as much as will lie on a silver quarter taken once or twice a day in a little warm water or tea.—*Medical Record*.

THE TEMPERAMENTS.—*Sanguine*.—The body lithe and active; the complexion ruddy and freckled; the hair sandy or light-auburn; the eyes grey or light-hazel; the mind resolute, active, sanguine.

Nervous.—The body light of build, rather slow of movement; the complexion fair; the expression thoughtful and intelligent; the hair flaxen, or very light brown; the eyes blue, or bluish-grey; the mind active; but as is commonly said, nervous.

Bilious.—The body inclined to be heavy, but often powerful; the complexion dark; the hair dark; the eyes dark; the mind thoughtful, reflective, determined, and often sad; bilious.

Lymphatic.—The body large and cumbrous; the muscles large and flaccid; the movements slow and hesitating; the complexion pale; the expression heavy and dull; the hair light and scanty; the eyes bluish-grey; the mind slow, but not unhappy—rather, in fact, of easy and careless disposition; supine, lymphatic.

In a little time the observer soon sees the combinations of these temperaments; and writes the temperament down, whether it be simple or compound, almost at a glance.

AN ARTIFICIAL CROWN.—Take an ordinary plain tooth—the kind used in rubber work is as good as a plate tooth and usually much more easily obtained—suitable for the case in hand, is selected and fitted as accurately as may be to the root which has been previously prepared, care having been taken that the root is cut quite a little above the margin of the gum. The tooth is then backed with plating which should be allowed to extend down below the incising edge of the tooth. A copper wire of 18 gauge—platina is preferred—and about one and a half inches long is laid with the middle over the pins of the tooth, bent down around the outside of the pins and up between them, thus forming a loop securely holding the pins. The ends of the wire are now twisted together forming a pivot of the very best shape for secure fastening in the root. Enough cement is used simply catch the end of the pivot when the artificial crown is in place. When the cement is sufficiently hard to hold the pivot firmly, fill the remainder of the root with amalgam which must also extend over the entire surface of the backing. Thus the metals all become thoroughly amalgamated into one solid mass, making a secure permanent operation leaving no cement exposed to the fluids of the mouth, to be disintegrated.—DR. A. W. McCANDLESS in *Archives of Dentistry*.

Societies.

"Wherewith one may edify another."

MEETINGS.

The Central Illinois Dental Society, Springfield, October 11 and 12, 1887.

Mad River Valley Dental Society, Springfield, Ohio, October, 26, 1887.

Ohio State Dental Society, Springfield, Wednesday, October 26, 1887.

OHIO STATE DENTAL SOCIETY.

THE next annual meeting will be held in Springfield, on Wednesday, October 26, and continue three days.

J. R. CALLAHAN, *Sec'y.*

SOUTHERN DENTAL ASSOCIATION.

ELECTION OF OFFICERS AND SELECTION OF TIME AND PLACE OF MEETING FOR 1888.

President, B. H. Catching, Atlanta, Ga.; First Vice-President, J. H. Prewitt, Madisonville, Ky.; Second Vice-President, W. H. Morrison, St. Louis, Mo.; Third Vice-President, J. Hall Moore, Richmond, Va.; Cor. Secretary, (re-elected,) J. Y. Crawford, Nashville, Tenn.; Rec. Secretary, (re-elected,) L. P. Dotterer, Charleston, S. C.; Treasurer, (re-elected,) H. A. Lowrance, Athens, Ga.

Executive Committee.—Drs. Edwards and Doyle, Louisville, Ky.; Dr. W. Daucy, Jacksonville, Fla.

Place of meeting.—Louisville, Ky., in joint session with American Dental Association.

Time of meeting.—Fourth Tuesday in August. All details left to joint committee of conference.

NORTHERN OHIO DENTAL ASSOCIATION,

Will meet at Painesville, Tuesday, May 8, 1888, and continue three days.

Subjects for Discussion.—1. Therapeutical Action of Ob-
tundents. Paper by Dr. W. H. Whitslar, Youngstown; opened
by Drs. F. Lyder, Akron, and J. E. Robinson, Cleveland.

2. Detrimental Effect on the Development of the Osseous
System of The Youth by The Present Method of Education.
Paper by Dr. S. B. Dewey, Cleveland; opened by Drs. L. Buffett
and P. H. Keese, Cleveland.

3. Labial and Palatine Cavities—Cause, Mode of Prepara-
tion, and With What to Fill them. Paper by Dr. H. F. Harvey;
opened by Drs. L. G. Meyer, Cleveland, and T. C. Leiter, Wads-
worth.

Clinics.—Operation on Labial Cavity by Dr. Chas. R. Butler,
Cleveland. Crown, by Dr. J. R. Owens, Cleveland.

MINNESOTA STATE DENTAL SOCIETY.

THE following officers were elected at the last meeting of the
Minn. State Dental Society, at Minneapolis, July 13th to 15th, '87:
President, Dr. H. L. Cruttenden; Vice-President, Dr. E. H. Angle;
Rec. Sec'y, Dr. D. W. Edwards; Cor. Sec'y, Dr. L. C. Gould;
Treasurer, Dr. H. M. Reid.

ANALYSIS OF STATE DENTAL LAWS.

WE publish in the following table an analysis of the dental
laws of the several States as enacted to date. It gives the years
of their adoption and amendments, their character and require-
ments as to examining boards, graduation, license, and registra-
tion. The word "graduation" means that the applicant is
admitted to practice upon presentation of a properly authenticat-
ed diploma to the board of examiners, and the word "license"
means that the applicant must pass a satisfactory examination
before the board. We have prepared the table as a brief answer
to many inquiries from correspondents both at home and abroad:


STATE.	YR.	AUTHORITY RECOGNIZED.	REQUIREMENT.	REGISTRATION.
Alabama... {	1841 1881 1887	Examin'g Board	License from the Board.	Probate Court.
Arkansas.....	1887	" "	License from the Board.	Books of the Board.
California	1885	" "	Graduation or License.	County Clerk.
Connecticut ..	1887	No Exam. Board	Grad'n or six years' practice.
Dakota.	1885	Examin'g Board	Grad. or License	Register of Deeds.
Delaware.....	1885	" "	" " "	Books of the Board.
Florida.....	1887	" "	License from the Board.	Clerk Circuit Court.
Georgia.....	1872	" "	Grad. or License	Books of the Board.
Illinois.....	1881	" "	" " "	County Clerk.
Indiana {	1879 1887	" "	" " "	County Recorder.
Iowa.....	1882	" "	" " "	County Clerk.
Kansas.....	1885	" "	Grad'n required.	Books of the Board.
Kentucky .. {	1867 1868	" "	Grad. or Certificate State Dental Association.	Books of the Ass'n.
Louisiana	1880	" "	Grad. or License	Books of the Board.
Maryland... {	1884 1886	" "	" " "	" " " "
Massachusetts	1887	Board of Regist'n	License from the Board.	" " " "
Michigan.....	1883	Examin'g Board	Grad. or License	" " " "
Minnesota.....	1885	" "	" " "	Clerk County Court.
Missouri.....	1883	No Exam. Board	Grad'n required.	" " "
Mississippi. ..	1882	Examin'g Board	Grad. or License	Books of the Board and Recorder of Deeds.
Nebraska.....	1887	No Exam. Board	Grad'n required.	County Clerk.
N. Hampshire	1877	Board of Censors	Grad. or License	" "
New Jersey. {	1873 1880 1884	Examin'g Board	Grad'n required	" "
New York.. {	1879 1881	No Exam. Board	Certificate State Dental Society, Dental or Medical College.	" "
N. Carolina...	1879	Examin'g Board	Grad. or License	Books of the Board.
Ohio. {	1868 1873	" "	Grad. or Certificate State Dental Society.
Oregon.....	1887	" "	Grad. or License	County Clerk.
Pennsylv'nia. {	1876 1883	" "	" " "	County Recorder.
S. Carolina. ..	1875	" "	" " "	Books of the Board.
Vermont.	1882	" "	" " "	Secretary of State.
Virginia.....	1886	" "	" " "	Books of the Board.
W. Virginia..	1881	" "	" " "	" " " "
Wisconsin....	1885	" "	" " "	" " " "

Our Aftermath.

A GLORIOUS COUNTRY.—This is a glorious and a favored land for the fellows who don't get left.—*Philadelphia North American.*

UNIQUE WESTERN MANNERS.—The following is printed at the bottom of the bill of fare at a Little Muddy (D. T.) hotel:—

"Guests after picking their teeth, must positively return bowie knife to belt or boot leg. Jabbing knife into table by plate during meal is strictly prohibited.

 No shooting at the beefsteak."—*Dakota Bell.*

ORNAMENTAL TEETH.—The ladies of Japan gild their teeth; those of the Indies paint them red; while in Guzerat the test of beauty is to render them sable. In Greenland the women used to color their faces blue and yellow. The Chinese torture their feet into the smallest possible dimensions. The ancient Peruvians used to flatten their heads; among other nations, the mothers, in a similar way, maltreat the nose of their offspring.

A CERTAIN Scotch gillie, it is said, is not often ill, but once he had the toothache. "And what did you do for it?" said one to him. "Weel, I just bought saxpenn'orth o' laudanum, and mixed it wi' a pint o' whiskey, and drank it; but it was na good." Here there was a pause, after which the speaker resumed: "So then I got another saxpenn'orth o' laudanum, and put it into a quart o' whiskey." "Well?" "Weel, when I woke, two days after, there was na toothache."

A WOFUL HISTORY.—Two friends are walking along the street. One of them, pointing to a house, says: "There's a beautiful place, but it's enough to make a man sad to look at it." "Why so?" "On account of its history; for, despite its calm and serene surroundings, it was built upon the groans, tears, wailings, and blood of widows, orphans, old men, and struggling women." "You don't say so. Was it built by a railroad monopolist?" "Oh, no; by a dentist."—*Arkansas Traveler.*

THE WONDERS OF SPIRITUALISM.—Omaha medium.—"The spirit who is now here tells me you are not an American by birth."

Omaha man—"He vas right."

"He says you were born in another country."

"Dot is drue."

"He says the name of that country is Germany."

"Dot vas so; it vas Shermany."

"I am tired now. Two dollars."—*Omaha World.*

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

NOVEMBER, 1887.

No. 11.

Contributions.

"A word fitly spoken is like apples of gold."—SOLOMON.

THE ADJUNCTIVE CONDITION OF DENTISTRY AND ITS TRUE RELATION TO MEDICINE.

BY W. IRVING THAYER, D.D.S., M.D., BROOKLYN, NEW YORK.

[Read before the First District Dental Society of New York, May 3rd, 1887.]

"PILATE said unto him, What is truth?" Let us see if we can find out, "What is truth," for we are advised to "buy the truth and sell it not." "Know the truth and the truth shall make you free?" Free from what? Free from error and a false position. Therefore, as I understand the science and art of dentistry to be, I desire to present the same in "words of truth and soberness."

What is dentistry? Chapin A. Harris, M.D., D.D.S., fortified, revised and confirmed by F. J. S. Gorgas, M.D., D.D.S., says that dentistry is "dental surgery, embracing everything pertaining to the treatment and replacement of the loss of the natural teeth."

Let me repeat, "embracing everything," *everything* pertaining to the treatment of the natural teeth. Sound normal natural teeth do not need good, bad or indifferent treatment. But dis-

eased teeth *do* need curative treatment, most certainly. Every dentist knows this, every dentist believes this and every man can say Amen! to it.

Note the point I wish to make clearly patent, to-wit: the curative treatment. Now, curative treatment involves something, combines something, requires something and demands something. Of this there isn't the shadow of a doubt. It involves mechanical skill, nimble dexterity and experience. This much will stamp dentistry as a first-class trade, will it not? But hold! Does dentistry involve anything more? By patient endurance we may find something more, especially if we like Pilate ask, "What is truth?" The whole truth is what we want and must have.

'Tis as plain as the noon-day sun, that dentistry is nothing but a trade if it involves nothing but mechanical skill. Does the average dentist practice anything but mechanical dexterity when he fills a tooth? Has the average dentist any other qualification or limitation except that of a mechanic? Reason out the matter yourselves when you hear me through.

We shall endeavor in our investigations to see if we can find any relation between dentistry and medicine, especially as some claim that dentistry is *not* a specialty of medicine, while some claim a more intimate relation and position for dentistry, to-wit: that it is an adjunct of the great healing art.

Worcester's definition of dentistry is, "The business or art of a dentist; dental surgery." Worcester quotes as his authority, Dunglison.

Worcester says that a dentist is "One who devotes himself to the study of the diseases of the teeth, and their treatment. A surgeon for the teeth."

Now, what is a surgeon? Worcester upon the authority of Dunglison, says a surgeon is "One who practices surgery." Then he adds as a synonyme, "a physician."

Now let us inquire, what is surgery? "What is truth?" Both Worcester and Dunglison agree that it is "That part of the healing art which relates to external diseases and their treatment. Especially to the manual operations adopted for their cure; the business of a surgeon."

If a better description of the work, operations, doings, manipulations, experience, experiments, preparations, qualities, ways, means, modes and methods used by a dentist, especially to the

manual operations adopted for the cure of diseased teeth, than is given above as the special function of a surgeon, I frankly admit, I do not know where to find it.

Let us see if we can find out what a physician is. Worcester says "One who professes, or practices the healing art; a doctor." Some dentists are, others permit themselves to be called doctors, who do not believe that they are practicing a specialty of medicine. Yet they are, according to Worcester and Dunglison, practicing the healing art every time they cap a pulp, prevent the farther decay of a tooth, or remove badly diseased roots either from soft or hard tissues.

Dryden says that medicine is "a drug or other substance used as a remedy for disease." I wonder if gold or gutta-percha could be one of those "other substances?" Could they be so used as to be a remedy for disease?

Dunglison says that medicine is "That branch of physic which relates to the healing of disease"; and the interpretation of physic, is the art of healing diseases.

Samuel Hahnemann speaks of his system of medicine—in his great *Organon*—as a "truly rational art of healing." All authorities agree that the practice of medicine is a healing art. In fine, it is the prevention and the healing of diseased condition, be it the treatment of enteric fever, metritis, endodontitis, hernia, pyorrhœa alveolaris, or even the filling of a tooth, to cure its diseased condition. Now frankly, is this not so?

No authorities that I have been able to find, but what agree that medicine "relates to the healing of disease," without claiming it must be this or that taken into the mouth or pricked into the circulation; or this or that external application.

We will retrace our steps a little and go back to Noah Webster, who defines dentistry as "The art or profession of a dentist." A dentist he says is "One who makes it his business to clean, extract, and repair natural teeth, and to insert artificial ones." Therefore, according to Webster, dentistry consists in part of repairing natural teeth. Now Webster does not teach, nor does he intend to convey the idea, that a tooth, in a physiological condition, needs any repairing or other curative treatment. Such services are rendered only in a pathological state. Hence it must of a necessity be a curative treatment, and, hence, again since it is that, it is the practice of the healing art, and it is a specialty of

medicine, because as Dunglison says "it relates to the healing of diseases." You will be kind enough to note that none of these authorities define any special, or class of diseases; but their descriptions embrace all possible pathological conditions. It's not a gospel for the white man alone, but a general doctrine for all human flesh and blood.

You will note that Webster affirms that dentistry in part is an art. We will all accept this because we all know 'tis true. What is art? The statement that Webster makes in regard to art is, 1st, "The employment of means to accomplish some desired end; the adaptation of things in the natural world to the uses of life; the application of knowledge or power to practical purposes. He who practices dentistry, does all of this,—especially he whose conceptions and customs are of a high order,—practices an art. Then a dentist, according to the above outlines, has gotten up one step from a supposed former condition, while his employment is much like some mechanical trades, he has risen to the dignity of practicing an art, as well.

"Blessed with each grace of nature and of art."

Webster continues his second description of art in these words, to-wit: "A system of rules serving to facilitate the performance of certain actions. 3rd. Skill, dexterity, or power of performing certain actions, acquired by experience, study, or observation." All these means, rules, study, experience, skill, dexterity, observations and power of performing are to be found in dentistry. Thus, gentlemen, you will be kind enough to notice that your speaker believes that there is something noble and elevating in dentistry.

Shall we now give that great authority's definition of science?—I mean Webster—and see how far it applies to dentistry? He says that it is "knowledge; penetrating and comprehensive information, skill, expertness and the like." 2ndly. The comprehension and understanding of truth or facts, investigation of truth for its own sake; pursuit of pure knowledge. 4th. Hence, specifically, knowledge duly arranged and referred to general truths and principles on which it is founded, and from which it is derived; a branch of learning considered as having a certain completeness; philosophical knowledge; complete knowledge"; and may I add, such knowledge of mechanics, of art, philosophy, chemistry, physiology, anatomy, pathology and therapeutics as shall enable

the man who possesses these things to approach the modest standard of a scientific dentist?

Now what do we find a profession to be? Webster says in his 3rd definition a profession is "That of which one professes knowledge, the occupation is not mechanical, agricultural, or the like, to which one devotes himself; the business which one professes to understand and to follow for subsistence; vocation; employment; as the profession of a clergyman, of a lawyer, and of a physician, or a surgeon.

If the duties and practices of a dentist are, in the main, "mechanical, agricultural, or the like," then he is not practicing any profession. But, while they are mechanical in part, as well as the practices of a common surgeon, they are something beyond this; they are manipulations whose professed, and possessed knowledge and occupation partakes of the same and allied duties, and whose ends are identical with those of the physician and surgeon, to-wit: the curing of diseased conditions, whom Webster says above are professional occupations. Therefore, gentlemen, those of you who are practicing dentistry, you are practicing an occupation that is a profession, since it has all, and many more adjuncts than any of above named professions have. "Macaulay says "He tried five or six professions, in turn, without success."

We have noted the descriptions that Worcester and Dunglison have given of medicine, and here we find that Webster says that medicine is any substance administered in the treatment of disease; remedial agent; remedy. Note the point, "remedial agent!" He does not say that that "remedial agent" must be swallowed, churned with the gastric juice, forced through the intestines by a peristaltic motion, absorbed by certain tissues, received—the major part of it—into the receptaculum chyli, and then carried up through the thoracic duct and tipped into the left subclavian vein in order to enter the circulation, to perform the functions of a medicine; no! it may be a "remedial agent" if the application be nothing but a porous plaster, or a topical application of common putty to an enormous anthrax. Just the same is the intra-topical application of a "remedial agent" applied to a congested pulp, the covering over or capping of an exposed nerve, or the prevention and cure of periostitis. Much of such attention is a mechanico-surgical remedy whether performed by a physician, surgeon or the much underrated dentist. He who does

such things is practicing something special in medicine, from the fact that he is using a "remedial agent," and from such conclusions there can be no possible escape.

Webster continues, 2ndly, thus: "That branch of science which relates to the prevention, cure or alleviation of the disease of the human body." As a transitive verb he places it like this: "To effect or operate on as a medicine; to remedy; to cure." A dentist's operations are "to remedy; to cure." Hence, the conclusions are potent, that he is practicing a specialty in medicine.

A physician, the same authority says, is "A person skilled in physic, or the art of healing." Physic is simply the art of healing. We would understand by the above that a physician is one whose education, training and experience has been such as to fit him to cope with the majority of diseases. Even the general physician knows more in relation to the treatment of the eye and ear than he does of the varied conditions of the teeth.

Prof. Wm. Todd Helmuth, M.D., gives his definition of surgery in the following language: "In the present advanced position of medicine it is impossible to draw a distinct line between it, to wit: medicine, and surgery, so intimately are they connected. Surgery is that branch of science which teaches the diagnosis, prognosis and medical treatment of certain disorders which may under peculiar circumstances require manual interference: as well as those injuries and malformations which call for purely mechanical"—please note this surgeon's words—"purely mechanical means of relief." Now who would care to affirm that because a surgeon was using a "purely mechanical means of relief," that his science was any the less a specialty of medicine? Better yet, like dentistry, it is an adjunct of that great and lofty calling, the healing art, which embraces everything which is designed to change a painful abnormal condition into a physiological one and bless a suffering fellow being with renewed life, activity and happiness.

Prof. Helmuth illustrates his definition of surgery in this language: "A patient applies for advice for a tumor of the neck, perhaps of a cystic, fibrous or fatty formation; calarea, conium, mercurius and other medicines are administered, and in a short time the growth disappears. So with cases of syphilis, gonorrhœa, hemorrhoids, bone diseases and certain affections of the eyes, none of them requiring manual interference for their cure, yet, again

under certain circumstances and conditions, each may have to be subjected to the knife."

His conception of the functions of a surgeon is of a dual nature. The one capable of a purely therapeutical application. The other as distinctly mechanical.

While such qualifications are not absolutely necessary as dentistry is practiced to-day, it is the writer's opinion that the public would be better served had every man who is engaged in dentistry, such acquirements.

Webster claims that a surgeon is "One whose profession or occupation is to cure diseases or injuries of the body by manual operations; sometimes one whose occupation is to cure external diseases, whether by manual operations or by medicines, externally or internally." Both Webster and Prof. Helmuth agree in their description of a surgeon.

A surgeon, so-called, is capable of approaching the healing art from two directions. The one a purely therapeutical one, the other along the road of mere mechanical construction. So does the dental surgeon, at least in one direction, to-wit: the mechanical, and even that is curative. Therapeutical in that it is waiting on diseased condition; also, that it is in part topical, addressed directly to the lesion found patent. Every filling put into a tooth is a mechanical operation, it is a species of surgery, and farther than that it is put there because it is curative. Curative in that all faithful operations are a cure to the disease or lesion found present. Then if curative, it is practicing a specialty of the healing art,—mainly as the duties seem to require, mechanical, and surgical,—and must of necessity be allied to some other practices that have similar manipulations and identically the same ends in view. Hence, it is a specialty of that great healing art, and is allied to surgery, mechanics and drug treatment.

'Tis true the dentist does not in that individual cavity produce new or scar tissue, but he arrests the disease just as truly as he who exhibits for imbibition, niter, aconite, veratrum-viride, or Bryonia to control any febrile condition and cure the same. If this is true that he does arrest disease in any form, be it pulpitis, periostitis, alveolar abscesses, or extracting irritating roots, he just as truly practices a specialty in medical science, or, better yet, of the healing art, as does his most pretentious brother who gives his whole time and attention to obstetrics, gynecology, gen-

eral surgery, or devotes all his energies to special pathology and therapeutics. This gives our view of the adjunctive condition of dentistry.

Nor is this all, by any means. While we contend that the practice of dentistry is the practice of a profession, we also affirm that it is secondary to none that has the health and welfare of the community in its keeping. Not that a dentist, or a number, constitute a self-appointed board of health, but those patients who often consult their dentist, usually—other things being equal—enjoy the best health. To fully prove this is not my purpose and it is safe to take it upon faith; but what I do claim is, that the work and duties found in thorough dentistry are transcendently superior in manual skill and mental comprehensiveness, to some operations that the common surgeon performs, though the latter may nicely remove a leg or an eye; for the very best he can do to repair the anatomical defects, is to put in a piece of colored and immovable glass for the lost eye, or recommend the services of an artificial limb maker, to help his poor patient hobble around with elevated shoulder, and a trembling walking stick.

The surgeon does not possess that useful and beautiful skill that a dentist well up in his profession does. While the former can remove certain members and parts of the body, he, unlike the great party of the second part, cannot restore said removed parts even to the extent of a home made crutch.

On the other hand, the dentist, while he not only practices the healing art, does more, he restores lost members and organs in the oral cavity, that he or some other wild man has extracted. If he be up in his profession, up on that high plane, and ever ascending as it is his privilege to do, he can restore lost teeth that, for practical use and artistic beauty, are wonderfully perfect. Perfect, for human attainments, and go far to prove that man is indeed,—especially a well educated and skillful dentist,—but a little lower than the angels and almost divine.

Do these facts appear extravagant to you, and you cry, "Give us the proof?" Then turn your eyes to the beautiful, useful, artistic and necessary crown and bridge work, that this profession of dentistry has had presented to it from many sources, from the fertile brains of some of its honored members, and it is the marvel and wonderment of this second day, May, in the year of our Lord 1887. Even in the cradle that has been rocked with-

in our hearing, there has been born, nigh unto us, a crown and a system of bridge work, children of E. Parmly Brown, D.D.S., that, so far as genuine strength, cleanliness, firmness and usefulness are concerned, the writer has never seen equaled.

The useful and beautiful contour work that some of our brethren can do, feats of mechanical and curative skill that they perform for grateful and appreciative patients, stamp their abilities as superb attainments. They have elevated their calling into a great and useful profession, in common with their brethren who have added to this building, the one in this direction, the other in that line of perfection, till at length while they develop a marvelous mechanical skill, they show no less ability in their common practice of a specialty of medicine and the healing art.

How can I bring my discursive arguments to a close without noting the objection of a friend of mine who claims, that since no medical college that teaches its undergraduates in any special manner the theory and practice of dentistry, and, again, because medical schools do not father such full and direct dental teachings, dentistry, cannot, of course, be a specialty in medicine.

Now let me appeal to the sound philosophical reasoning of every man present, and ask, by what standard shall we decide this matter? Shall it be by the place in which he was, or was not educated; or shall it be by the subsequent acts, functions, duties, operations and the results that shall decide whether a man is practicing—performing anything, if you please—that has any bearing or special relation to something else? Why you all will concede the point, that *where* a dentist was or was not educated has nothing to do in deciding the point at issue.

All medical colleges *do* teach much that is dental, as well as other specialties touching the cranium. But to affirm that because medical schools do not teach the mechanics of dentistry, that dentistry cannot of necessity have anything in common with medicine, is as fallacious as it is misleading.

But to meet the objections of my friend who has almost imagined that dentistry was not a specialty of medicine, "because," as he says, "medical colleges do not teach dentistry." I take the pleasure of informing him that medical colleges *do* teach the art and science of dentistry, and require their under medical graduates to devote a certain amount of time and study to dentistry before they can receive the degree of M.D.

The authorities of the Middlesex Hospital Medical College,

of England, have decided not to sign the schedule for hospital practice; this means that a student cannot graduate "unless the medical student has attended for three months the practice of the dental department," of this said medical school. Thus my friend's objections must vanish into thin air, and he must give me some more weighty argument to prove, that he, as a dentist is not practicing something special in medicine.

The legal, professional and medical status of the dentist, according to the *Medical Record* of October 23, 1886, is settled in this language, to-wit: "We have said that, until lately, only these two classes of physicians and surgeons were known to the law; but within the past ten years a body of men, whose business is to treat a particular region of the human body, have been incorporated on the model of the medical societies, although, in so far as they claim to constitute a profession they can differentiate themselves from other ministers to human infirmity, not by their method of treating the ailments of man, but by the part of the body they treat. They are the men who laugh in our teeth, if in pain we go to them for aid. They are dentists, and call themselves 'oral surgeons.' Granting their associations all respect due to the undoubted talent, skill and acquirements of their members, it is, nevertheless, glossologically undeniable that, only in so far as they deserve the name of 'tooth-carpenters,' do the dentists form a class apart; in other words, it is only as mechanics, pullers, fillers, and, if one may so speak, falsifiers of teeth, that they are entitled to classification as a distinct body of workers.

Plumbers, carpenters, ivory-workers and dentists, in so far as they are a sub-species of the group last named, constitute, respectively, separate classes of artisans, differentiated *inter se* by the matter upon which their manual labor is performed, and the method and object of their work. So chiropodists, manicures, and barbers, while confining themselves to their proper functions, constitute distinct classes of workers.

But when the dentists, ceasing to be mechanics, undertake the treatment of diseases of the mouth, they then become practitioners of medicine or surgery, and as such have no more claim to legal recognition as a peculiar profession, than have dermatologists, gynecologists, or any of the 'ologists who fill our ever-increasing space in the ranks of busy life."

The practice and function of medicine is to cure disease.

The result of different operations in dentistry, are just precisely the same, and end in curing disease. Therefore, truth is truth, whether sought for by Pilate, or enunciated by Worcester, Webster, Dryden, Dunglison, or Chapin A. Harris of blessed memory. Gilpin declares that "People frequently reject great truths, not so much for want of evidence, as for want of an inclination to search for them."

Sir Philip Sidney affirms that truth is the ground of science, the center wherein all things repose, and is the type of eternity. Truth will yet determine whether there be living tissue amongst the enamel rods, because, "Truth is as impossible to be soiled by any outward touch, as is a sunbeam."

Hail! glorious Truth, to thee all hail!
 Thy precious form is wafted on every moving gale.
 In thy fair hand, the keys of Science dwell,
 Perchance, between enamel rods in proto-plasma cell.
 From thee, sweet Truth, no artificial color draws,
 For all thy flights are subject to God's great laws.
 Thou art the friend of Reason, and the guide of Youth,
 Thou art our sacred guest, O! Immortal Truth.

TRANSPLANTATION AND REPLANTATION OF TEETH.

BY DR. A. BERRY.

TRANSPLANTING teeth, removing and inserting them in the mouth of another person in sockets of teeth just extracted, was an invention of the dark ages of dental science; but history is silent as to the name or time of the invention.

All dental authors who have alluded to transplanting teeth, during upwards of three hundred years, have strongly condemned it, except Hunter, who was enthusiastic in regard to it as practiced by himself; but after larger experience he abandoned its practice.

The time of retaining transplanted teeth is generally of short duration, even under the most favorable circumstances. There is danger of fatal maladies being caused or communicated by them.

Dr. James Gardette, in a paper published in 1827,* says that Mr. Lemayeur told him that he had transplanted one hundred and twenty teeth in Philadelphia in the winter of 1785 and 1786,

* *Medical Recorder*, Philadelphia, 1827; *American Journal and Library of Dental Science*, January, 1850; *OHIO JOURNAL OF DENTAL SCIENCE*, January, 1886.

and Dr. G. adds, "of all these transplanted teeth not one succeeded."

A neighbor of the writer of this said, "Doctor, I had a curious case the other day. I extracted an upper front tooth for a lady, and on examining it found it strangely decayed in its root. I said to the lady, "This is a singular case; I have never seen the like of it before." She replied, "I had a tooth badly decayed, and we had a negro girl with very pretty teeth, and I had my tooth taken out and one of the girl's put in its place, and I reckon that is the same tooth."

About fifty years ago Mrs. G., wife of Governor G. of Alabama, had several superior incisors extracted from the mouth of a negro girl belonging to the family, and inserted in the sockets of teeth removed from her own mouth, by a traveling dentist. Tetanus supervened, from which Mrs. G. passed away.

Dr. Gardette says that he had been informed by Mr. Lemayeur, that a young lady of New York, and a gentleman of Virginia, had each a transplanted superior incisor. The transplanted tooth in the mouth of the lady "produced a disease, judged by the physicians who attended her, to be the *lues venerea*." The transplanted tooth in the gentleman's mouth "occasioned much inflammation in the gums and eyes. After sometime the ophthalmia became severe, and other symptoms justified the opinion that *lues venerea* had been introduced into the system by the transplanted tooth." The disease caused the death of both patients.

This operation is infamous, as flagrant violation of the divine law of love, depriving one of what makes him poorer, despite the money he may have received, and enriching not him who acquires the object of his cupidity, which he can enjoy only for a short time, and from which he may find results extremely disastrous.

Dr. Gardette remarks, "I therefore believe that there are a thousand chances to one against the operation of transplanted teeth from one mouth into another, if not entirely impracticable."

But with all the light on this subject there are dentists reckless enough to perform this operation. What shall be said of the dentist who prostitutes his professional services by acting the procurer in this immoral and hazardous transaction, whether actuated by desire of notoriety, wish to gratify his patient, (who is ignorant of the risk he takes,) or the usually large fee for this opera-

tion? Replanting teeth may prove successful under favorable conditions, the teeth and surroundings being healthy, and the subject neither aged nor diseased.

The writer of this has been acquainted with several persons who had highly satisfactory experience with replanted teeth. A lady at fifteen years of age had a sixth year inferior molar extracted by mistake by a neighborhood tooth-puller, which was immediately returned to its socket, and ten years after it appeared as well in every respect as though it had never been removed.

Two young men had incisors, one an upper and the other a lower, ejected from their mouths in personal encounters, and they replaced the teeth in their sockets as soon as possible, and when carefully examined, one about fifteen years and the other twenty years subsequent to their replantation, these teeth were apparently in as good condition as they could have been had no injury befallen them.

A partner of the writer extracted one of his anterior superior bicuspid, which was largely carious, but the nerve cavity and its socket were apparently free from disease. After filling the tooth he replaced it in its socket, and ten years later, when he was instantly deprived of life attempting to stop a runaway horse, the tooth was in a fine normal state. Undoubtedly the nerves of these four teeth became reunited.

The writer extracted an inferior bicuspid for a healthy lady, about twenty-three years of age, to cure severe periostitis, and, after filling the root with lead, and the crown cavity with some other material, the tooth was replanted. Tenderness of the parts about it passed away in a few days, and the tooth was as useful as ever for six years, when, from absorption of its root, it became loose and the patient took it out with her fingers.

The writer removed an inferior bicuspid which had been extracted and replanted by a neighborhood tooth-drawer less than a year previously. A considerable portion of its root had disappeared, and disease in its socket caused pain. The tooth was supposed to be free from disease when replanted.

ALCOHOL MOLECULES.

BY J. N. HURTY, M.D., INDIANAPOLIS, IND.

[Paper read before the Indiana Dental Society June, 1887.]

ALL the alcohol used in the arts, sciences and by manufactures proceeds from sugar.

The fabricator of alcohol of the present day starts with starch. This starch is found most abundantly stored up in grain, Indian corn containing it in most notable quantities; and on account of the cheapness of this cereal the distiller makes free use of it.

The primary step is the grinding of the grain, which is necessitated by the fact that the starch granules are very effectually protected by first, a flinty coat that is insoluble, and lastly, by a hard, horny, cell-forming material.

The secondary step is the cooking. By cooking, the starch cells are softened, rendered partially soluble, and the whole mass is set far on its way in molecular transformation.

Now comes a process attended with astonishing results. Here the starch molecule has its elements quickly rearranged, each one taking into itself a molecule of water and, lo! sugar is produced. This magical change is brought about by a power most gigantic. A feeble and exceedingly delicate substance termed a ferment, and named diastase; a substance so delicate, that the temperature of our morning cup of coffee would destroy, so evanescent that an hour's exposure to the air splits into a million fragments, by its energy—peculiar and mysterious—compels a transformation in an invisible molecule that the power of 10,000 horses could not produce. And this is done so noiselessly, and in such perfect tranquility, that no sense of sound or touch could e'er discover that change was made.

Diastase is formed in the silent process of germination. Warmth and moisture quicken into life all seeds, and when aroused from dormancy our wonder-working ferment springs into being.

In barley diastase is most abundantly formed, and this grain is chosen to produce it.

When our starch has become sugar, a soil is prepared wherein will flourish certain forms of vegetable life. Into this sugar solution is sown the seeds of the yeast plant. From whence the yeast plant came, no man knows. It has been handed down from generation to generation, even before the pyramids were known. for the Egyptians, long before Joseph was sold into bondage among them, made a drink called barley wine, for kings alone; and some there are of the present day, who maintain that beer is a drink fit for the gods. Through these ages—the “*torulæ cerevisiæ*” for such is the name given by botanists to the yeast plant—has in its evolution grown to great perfection, and now the products of its labors are much superior to what they once were.

The *torulæ* in its development feeds upon the sugar, and the waste products of its life's growth are alcohol and carbonic acid. The latter product is eliminated, and through the most wonderful processes of diffusion, soon becomes lost in the vast ocean of atmosphere which surrounds us. The alcohol by distillation is separated from the débris with which it is associated, and quickly finds its way into the channels of trade, and eventually is found upon the festal boards, or aiding medicine in its most humane endeavors, or again lending its services in the arts, sciences and manufactures.

The yeast plant is in its work most marvelous. The structure, however, is simple. Primarily a single cell, formed of a thin cell wall, most frequently spherical, sometimes elliptical or cylindrical. Within the walls is found a granular substance called protoplasm, which is the life and being of the plant. The cells grow and bud with astonishing rapidity. In a few hours a tank holding hundreds of gallons, in which has been sown only a pint of yeast, is found alive with moving cells. The cells have no power to move of themselves, but are kept in continual motion by the escaping carbonic gas, one of the products of their growth. When a cell reaches a certain size a median constriction occurs; it divides into two parts, resembling the mother cell, and these sometimes separate, sometimes remain united in a group. This mode of multiplication prevails as long as the yeast remains in a liquid favorable to its nutrition. But if its development is hindered; if for example the liquid dries up, the protoplasm contained in each cell contracts and is transformed into one or more globules, which are the spores or endogenous reproductive organs of

the plant. These spores may remain undeveloped for a long while, may become perfectly dry, and may be even subjected to a very high temperature without losing the power of germination when they are again placed in conditions favorable to their development. Yeast appears a semi-liquid pasty mass to the unaided eye. Of varieties there are many kinds. The fuzz upon peaches, the bloom on apples and on grapes, are spores or seeds of yeast. But sow the dust found upon any fruits in a congenial and nutritious fluid, and fermentation results. A fact most curious, most entertaining, one full of reflection and rich in deduction, is, that juices drawn from fruits under such precautions as to prevent the bloom from becoming admixed, will not ferment, unless air motes have subsequent access, and from air motes spring a fermentation totally unlike that produced by fruit bloom.

In conjunction with our very meager review of the marvels of yeast, we must consider a certain chemical element. This element bears a most important part in all vital processes, yet of popular consideration it has little or none. We hear most frequently of oxygen, of hydrogen, of gold and silver and iron, but of nitrogen the layman knows but little. This element is most modest and retiring; it quietly seeks its proper chemical affiliations, and imparts qualities to various forms of matter that we of the human race would not be without under any consideration.

The flavor of the savory beefsteak, the aroma of coffee, the perfume of the flowers, are all due to nitrogen, and on the other side the offensiveness of asafœtida, and the noisomness of putrefaction, are due to the same element. Nitrogen causes the pungency of ammonia, and the violently corrosive nitric acid finds its power in it also. Yet, this quality of imparting to combinations most pronounced characteristics, would never be suspected from a study of this element in the elemental state. It might be termed the silent element, for to all interrogatories it returns no answer. It will not support combustion, and is not combustible. It is tasteless, odorless and invisible, and can be respired without effect. It is insoluble in water, alcohol and all other solvents, and unlike all other gases there are no known chemical solutions that will dissolve it. It seems to have no affinities, being cold and repellant. It holds aloof from its sister elements, taking a stand midway in the chemical scale. It is neither a metal nor metalloid, and makes no direct union with

any known compound or other element. So negative a substance, it might be inferred, would take no pronounced action in the economies of nature, but as just shown, quite the contrary is the fact. Yeast and all other ferments seem to owe their life and energy to it.

Of great interest and importance are the theories by which are explained the phenomena of fermentation. Two schools primarily existed. The first, unable to see and behold, assumed that low vegetable and animal life sprung forth spontaneously; the second, by analogy and by experiment proved that low forms, as well as higher, had their origin in seeds and reproductive organs and processes.

Prof. Tyndall had his attention turned to the problem of fermentation and to the origin of low vegetable and animal life in the following way:

He was enjoying a summer's vacation in the Alps, and while one day climbing a rugged crag, he slipped and fell; a sharp rock cut into his knee; from thence he was borne to a peasant's cottage, where such comforts as could be found were given.

He did not wish to return to the cities, and expecting his wound would quickly heal, he could without delay enjoy the mountains. He was removed to the little inn down the valley and quickly recovered. Why should this be? High upon the mountain the air was pure and wholesome, the drainage most excellent, and the health of the cottage and family good. Further down the mountain side conditions were seemingly no better for recovery, and yet recovery rapidly took place. There was one condition, however, that prevailed at the cottage and not at the inn, and that was a considerable quantity of hay was stored in the loft, and daily was disturbed in order to supply the cattle with food. Could it be possible that this could affect a wound? A series of experiments were instituted to discover. Infusions of various substances—beets, parsnips, hay, grain and meat, were carefully prepared, and after boiling hermetically sealed, still hot, in the same way that fruit is canned. These tubes were opened to the air at various places on the mountain side, and especially were a number of tubes containing all kinds of organic infusions opened at the little cottage, where the eminent scientist had fared so badly. At the house the tubes quickly showed signs of change, while those at the other places behaved differently, some ferment-

ing in a few days, others remaining intact for a long time. The great energy of the fermentation in the tubes at the house showed the cause, or causes, of fermentation to be most active there. And what were these causes? was the next question. Could it be possible that hay contained aught that might influence fermentation? for otherwise the surroundings were the same in every instance. To be brief, a series of supplementary experiments, conducted most ingeniously by this prince of experimenters, showed, that in old hay there existed fermentation germs most persistent of vitality and extremely energetic in action.

Tyndall's and Pasteur's experiments all lead to the conclusion that there is no such thing as spontaneous generation; that the seeds, or spores, of yeast are always present in the air whenever fermentation can be induced, and that the presence of low animal life is a consequence, and not a cause, in fermentation, and that the said animal life springs from germs existing in the air in the same manner as the seeds of yeast.

The doctrine of spontaneous generation is full of interest, and to judge from the tenacity with which its advocates still cling to it, in the face of thousands of refuting experiments, it has charms for the human mind equal to those of psychology.

Tyndall himself says that when he for the first time saw a carcass being devoured by maggots, that the idea that all this consuming life spontaneously sprung into existence forced itself upon him. The ancient Egyptians thought that eels spontaneously sprung from the ooze of the Nile, and the whole world believed for hundreds of years that toads and frogs, like Topsy, just grewed.

We all know the fable of the bees born from the putrefying body of a slain bull. Aristotle says that by means of heat one living being may have its birth in the corruption of another. Van Helmont, who lived early in the 17th century, goes so far as to say, "It is true that a ferment is sometimes so bold and enterprising as to form a living being." "In this way lice, maggots and bugs, our associates in misery, have their birth, either within our bodies or in our excrement. You need only close up a vessel full of wheat with a dirty shirt, or pair of socks, and you will see rats engendered in it, the strange product of the smell of wheat and of the animal ferment attached to the garments."

The term Alcohol, to the general world, is specific, but in chemistry it is generic. The alcohols form a large class in chem-

istry. The different kinds are almost without number, and their decompositions and transpositions are enough to set the best ordered mind in a whirl. Chemistry divides them into monohydric, dihydric, trihydric, tetrahydric and hexhydric alcohols. Under each of these divisions there appears interminable series, and under these, sub-series seemingly without end.

A few names adopted in accord with a most admirable system of nomenclature may interest: Ethyl-methyl carbinol, dimethyl-propyl carbinol, methyl-hexyl carbinol are given for consideration.

Carbolic acid is known in chemistry as phenylic alcohol, glycerine as propenyl alcohol, and the fragrant oil of wintergreen is a combination of methyl alcohol and salicylic acid. The Phenols to which carbolic acid belongs is a large class of alcohols, and lastly all alcohols are formed on the type of water.

Having found the alcohol molecules to have proceeded from sugar, through the labors of a microscopic plant, we may now consider the two great anæsthetics chloroform and ether. Chloral though a solid is sister to chloroform. Absolute alcohol, acted upon by chlorine gives us chloral, called in chemistry trichloraldehyde-hydrate. Chloral, acted upon by alkalies yields chloroform. The chemical name of chloroform is trichloromethane or menthenyl trichloride.

From alcohol direct through the reactions induced by chlorinated lime—which is the ordinary so-called chloride of lime—is chloroform made on the commercial scale.

Series of earthen and metal stills are required so extensive that the fabrication of chloroform is carried on as a separate business and art, as is the fabrication of iron.

The construction of the chloroform molecule from the atoms found in alcohol and chlorine, is quite complex. Alcohol is a salt, chemists knowing it by the name of ethyl hydroxide. By the affinity chlorine has for hydrogen, the hydrogen of the alcohol molecule is wrested from it, and in the re-arrangement that follows, hydrogen chloride and chloral are formed. The work of the chlorine, which was done seemingly in undue and inconsiderate haste, is now immediately undone by the lime; which having suffered abandonment, is full of energy, seeking new unions and affiliations.

The chloral then is attacked by the lime, for within the

former rests a grouping of atoms known as the formic radicle. For this member of the chemical family lime has great attractions, and *it* has attractions also for lime, and the final result is the forcible withdrawal of the formic radicle from the chloral molecule, with the formation of calcium formate. This rests supreme, for naught now remains of power sufficient to disturb its quite solid construction. But the remaining atoms, that a moment before were happily ensconced in the chloral molecule, are left to whirl and gyrate in a cyclone of confusion, until at last their affinities prevail, and like well drilled soldiers who at tap of drum form in faultless line, they arrange themselves in accord with the immutable chemical law and chloroform is born. Chloroform, although its basal elements are found in alcohol, and although in its fabrication it has been born from alcohol, it is nevertheless without relationship.

A close study of its genaology shows methane, known as marsh gas, which gushes forth in untold volumes from the gas wells, to be its great progenitor. The methane molecule consists of one atom of the solid carbon, and four of the gaseous hydrogen.

Three atoms of chlorine supplant three of the hydrogen leaving but one of the latter in the combination, the result being chloroform, the anæsthetic properties of which a dentist had the honor to discover.

Ether is a lineal descendant of alcohol. The foundation of alcohol is ethyl, which is a radicle made up in its molecule of two atoms of C. and five of H. This radicle is also the rock upon which ether is built. In the first instance, ethyl combined with hydroxyl gives alcohol, namely, ethyl hydroxide. In the second instance, ethyl, in combination with oxygen, makes ether, namely, ethyl oxide, in a word; but tear from the alcohol molecule its replaceable H. and ether results.

To make ether, all that is required is alcohol and sulphuric acid. Into a retort is introduced a quantity of alcohol, and when, by proper heat appliances the right temperature is reached, sulphuric acid, drop by drop, is added, and then proceeds etherification.

Through its affinity for water the sulphuric acid steals from the alcohol its water-forming elements; an atomic earthquake results, and when order again proceeds from the chaos, the ever law-obeying atoms arrange themselves.

Methought upon a time as the retort, with its ether contents boiled and effervesced before me, that my soul stood forth in absolute nakedness. The molecules of its composition were wafted in a nebulous mass into the tempestuous and cyclonic whirl of matter before me. Immediately down, down into the mighty maelstrom it sunk. On every side, aloft, beneath, to the right, to the left, was confusion piled upon confusion. Molecules and molecules, atoms and atoms, in a whirl of inconceivable excitement and energy, presented a chaos defying conception in the most fervent imagination. The rapidity of the molecular motion, the molecules in their decomposition and recomposition, generated a heat so intense that in its presence adamant would have instantly dissipated.

As my imponderable and immaterial soul sunk deeper and deeper into the seething, whirling, gyrating, molecular hell, it seemed as if interminable abysses lay between each atom! and, yet with such incalculable speed did every atom move, that the chasmic spaces, so wide that they appeared to have no beginning and no ending, were instantly encompassed.

Quicker than the wings of light they sped upon their way, ever and anon atoms of unlike polarity would meet and coalesce with mighty fervor; the mad atomic rush then slackened, the nascent form no longer prevailed, and the molecular took on its being. The maddning rush went on, but soon my soul, which heretofore had conceived naught but wild confusion to surround it, saw that each individual atom of the countless millions had its own fixed path. With unerring certainty did it find its congenial mate, and in beautiful obedience make its proper union. Then did the mighty work go on, and on, and on, until finally it was apparent that the affinities would prevail and quietly rule. What was this power? Whence came it that controlled so absolutely these infinitesimal atoms and molecules, that compelled or led them to join the one to the other, forming definite compounds?

My soul thereupon fell into contemplation, and thus it reasoned: Here, surrounding innumerable particles of matter, each particle possessing an integrity and activity of its own, compounds form but to be rent asunder; molecules are no sooner built up from atoms than they are torn into millions of fragments, but the final is near. Apparent is it, that soon the rush and whirl will quiet down, the maddened swish and whiz will die away, the

scorching heat will go, and the seething chaos will evolve into a thing of use, of beauty, and a joy forever. But the power, the energy, that has controlled and directed so absolutely, that has led to such perfection, is the final and immutable law of nature, that controls alike the animate and inanimate, the sentient and the insentient, and prevails in deepest depths and loftiest heights.

AMERICAN DENTAL ASSOCIATION.

HELD AT NIAGARA FALLS, AUGUST 2, 3, AND 4TH, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE.]

(Continued from page 474.)

SECOND DAY.

REPORT ON OPERATIVE DENTISTRY.

DR. E. T. DARBY reported on this Section. Among other things he said that many thought only original investigation should be presented here and other topics discussed in local societies. He believed that the American Association was just the place to present all these things, stating that science was well enough but had done but little toward guiding us in filling teeth compared with practical operative dentistry. He spoke of the Herbst method of filling having attracted much attention because of its newness, but thought that had Dr. Herbst lived in America instead of Germany, and known the methods here, it would have been doubtful about his adopting this method. Yet, it had been a benefit to the profession especially by being the means of bringing out a superior quality of gold foil. The Wolrob gold is good but the velvet cylinders are preferred by many. Much attention had been given to the simplifying of proximal cavities through the use of various new appliances. He spoke of the various kinds of matrices and separators, the Perry in particular being highly recommended. The subject of implantation of teeth was spoken of, but the speaker thought there is danger from absorption of the root ensuing, and nature rebelling against the foreign substance, thus sadly interfering with the result of the operation. Time alone will disclose the

result of operations of this kind. He further said that little in the way of instruments can be added to make operative dentistry complete. The greatest need at present is some reliable plastic filling material that can be inserted in a short space of time and that will resist the destructive action of the secretions in the mouth. He thought it more advisable to let means go toward investigating in this direction than in other chemical research. For obtunding sensitive dentine he thought hot air to be as effective as anything, but the one thing needful is an apparatus that will convey the air in this condition directly to the cavity.

DR. W. N. MORRISON said that in the application of the rubber dam he used rubber ligatures, cut in strips from the ordinary rubber dam, and carried them between the teeth as the ordinary floss silk, and, when in position, clipped either end to get it out of the way. It was just as effectual and would not cut the rubber dam as silk and other ligatures are apt to do especially where the cusps are sharp and it is difficult to get the dam through.

DR. A. L. NORTHPROP: I wish to ask the gentleman why the sharp edges of the teeth would not cut the dam just as readily when using this band as the silk ligature?

DR. MORRISON: I referred rather to the cutting of the dam by the ligature itself. Where these sharp edges exist it is best to remove them. In regard to regulating he said he had taken the ground that it should be prevented. That the deciduous teeth ought to remain in the arch until they were pushed out by the permanent. He believes in merely assisting nature to bring about the final good result. He here presented models of cases he had had under his care. The first case was that of a child five years old sent to him to have some teeth extracted. The anterior teeth were badly decayed, and the premolars pulpless. The teeth were all filled and kept in place until their successors erupted. The result was perfect regularity which would not have existed had the deciduous teeth been extracted. Another case was that of a superior lateral closing within the inferior. He adjusted a platinum band to the lateral and with the jack-screw resting on the molar and bicuspid of the opposite side of the jaw, he corrected the irregularity in eight days. The next case was that of an unerupted superior cuspid. The space between the lateral incisor and first bicuspid was but one-sixteenth of an inch the cus-

pid crown just appearing above it. He expanded the whole arch until the requisite space had been gained. He then attempted to force the cuspid down into place, but the moment the pressure was released the tooth crawled back into its socket. Extracting the tooth he found that a hooked root had been the cause of the trouble. This hook was clipped off, the root canal and pulp chamber properly filled, the tooth replanted and held in position until firm. It had been a complete success.

DR. S. C. G. WATKINS described a case where the lowers projected beyond the uppers. He expanded the entire upper jaw by means of cotton-tape wedged between the teeth beginning with a single thickness and increasing by one thickness each day for several days when he stopped the wedging for a week to relieve the soreness, then continued until at the end of about three weeks they were spread enough to overlap the unders. A retaining plate was then inserted to hold them in position. The lower front teeth were drawn backward by means of rubber ligatures fastened to a bar running across from one banded molar to the opposite. The operation was complete and occupied only about one month.

DR. G. W. KEELY spoke of the premature removal of the temporary molars before the appearance of the first permanent molars, as being an inevitable cause of irregularity.

DR. W. C. BARRETT presented a case of a patient aged seven. He said: None of the teeth had fully erupted, but the centrals were just appearing through the gum. By some accident one of the centrals was knocked out and it was forty-eight hours before the case was brought to me. It was a problem as to whether I could replace it satisfactorily. But I took a very thin piece of platinum sufficiently large to cover the end of the root, to which I soldered a wire, at right angles to the plane of it. The wire was cut just long enough to be well admitted into the root canal. The root was filled with phosphate cement, the wire pressed into it and the thin platinum thoroughly burnished down over the apex of the root. An impression in wax was taken and a tooth about the size of that extracted, fitted in the cast, projecting to about the probable length of tooth fully erupted. Thin platinum was burnished over the edges of the teeth, on the cast, and gold melted over it to stiffen the appliance. The extracted tooth was then placed in position, and the teeth thoroughly dried. The

platinum appliance was then filled with cement and held in position until this became hard. In three week's time reunion had taken place. It has been now about one year since the operation and it would be a difficult matter for a stranger to identify the extracted tooth.

The next case presented was that of a patient, aged 14, whose superior anterior teeth projected, and as there were but two molars in the upper jaw it seemed difficult to move the six anterior teeth backward without moving the posterior also. He put wide bands on the bicuspid and molar of each side soldering these bands together to a side plate on which was a guide and screw. A thin plate strap extended across the edge of the protruding teeth and was secured to the screws on either side, by such means that when it was tightened the front teeth would move backward, but the bands being wide and the appliance so arranged the posterior remained fixed.

DISCUSSION.

DR. J. N. CROUSE stated that he thought that not only the extraction of the first molars but any of the teeth interferes somewhat with their regularity. The temporary cuspid is often extracted to make room for the lateral and then when the bicuspid is erupted it occupies so much of the space that not enough is left for the erupting canine. He recommended dentists to make casts of the teeth where the first molar had been extracted and the real harm done thereby noted. He had been at this for the past ten or twelve years but was not yet satisfied. He further stated that he would like the description of an apparatus that would successfully rotate teeth.

H. A. SMITH: Certain teeth are very resisting and not easily moved, but drilling away part of the alveolus opposite, either inside or outside, will remove at least much of this resistance. In moving posterior teeth, pass the drill down and cut away some of the alveolar wall, being careful to avoid, if possible, striking the periosteum. In this way you will find that the teeth will get started much quicker and move easier.

DR. F. ABBOTT: I have used cast aluminum plates to good advantage for these purposes. The plate is cast over the model and fits more accurately than most other plates. Then you can insert screws if you choose as the metal is not hard yet strong

enough to hold them. The plate can be firmly held in place by running the metal over the molar teeth as far as the necks and driving it solidly down.

DR. W. B. KNAPP: Regulating is often very unsatisfactory because of patients being so careless about keeping appointments. I have had trouble in this respect and hereafter I shall demand, at the start, at least one-half of the pay and think it will have a beneficial result in making them prompt.

TEETH OF RABBITS.

Section fourth was reported on by DR. FRANK ABBOTT who read a paper upon the above subject of which the following is an abstract: He said, believing, as I do, that there is often beneficial interest in variety, even in study, I have thought it advisable to vary the papers this year and give in my report a short discourse upon the comparative anatomy of the teeth, choosing the Rodentia as a class and the rabbit as a type of purely vegetable-eating animals, for my subject.

The two lower incisors of the rabbit are chisel-shaped formations growing from the jaw-bone, and held in position by means of an intervening layer of fibrous connective-tissue the anterior or convex surface being provided with a thin layer of enamel, while on the posterior this material is lacking. Tomes says that "a thin external coat of cement is found upon the back of the tooth, but is not continued far over the face of enamel." I will admit only that a thin coat of cement is present on that portion of the incisors inclosed in the jaw-bone. The enamel protrudes at the cutting edge of the incisors and the dentine produces a sloping surface downward and backward, always making a complete investment around the pulp-tissue. With low powers of the microscope we observe that in the portion anterior to the pulp-canal the canaliculi are arranged with great regularity, running obliquely, upward, downward, and outward, becoming nearly horizontal at the border of the dentine. The pulp canal is a cone-shaped cavity occupying the centre of the dentine in a rabbit two months old, while in a full grown animal it is narrower and runs eccentrically, with dentine thicker anteriorly than posteriorly to it. The general direction of the medullary canals corresponds with that of the canaliculi which is upward in the young and slightly downward in the old animal, and the anterior portion of

dentine more thoroughly calcified than the posterior. With higher powers of the microscope the enamel covering the anterior surface of the dentine seems to be composed of rods taking a sigmoid course upward in the young and downward in the old rabbit. The interstices between the prisms are narrow and in many places show the extremely delicate fibers. The interstices run to the outer periphery of the enamel only occasionally, the majority of them stopping short of this. The reticulum may be seen throughout the prisms especially in the neighborhood of the dentine. The dentine shows in its basis substance a delicate reticular structure, more conspicuous even than in the teeth of man. The canaliculi, containing delicate fibres, bifurcate freely upon approaching the periphery near the enamel. Most of these stop in the hyaline layer only a few traversing between the enamel rods. The general direction of the canaliculi is radiating although some run almost parallel to the surface. The pulp-tissue is medullary in the young and fibrous in the grown animal, where we find also that the pulp canal is considerably narrowed, and the connective-tissue still holding a large number of capillary blood-vessels, which extend into the lateral offshoots of the pulp canal. Dentine traversed by such canals is known as *vaso dentine*, which in some places is bordered by formations kindred to odontoblasts. The pulp-tissues of the grown rabbit contains numerous bone-like concretions, of varying sizes, which may appropriately be called "pulp-stones." The upper incisors, two in number, are diverging in their root portions. Immediately behind these we find two rudimentary incisors. There are six molars in the upper and five in the lower jaw of a rabbit. Although separate teeth they are cemented together into an almost continuous mass by intervening bone-tissue. Each molar is constructed materially the same as the incisors with the exception that the structure of the enamel differs being composed of two layers. The first molar is the shortest and the fifth the broadest. In the young the teeth are separated from one another by an intervening layer of periosteum, but this is not present in the old animal, but the bone is in direct contact with the teeth. The dentine of the molars is similar to that of the incisors. The fourth and fifth molars have two pulp-canals each, being wide in the young and narrowed in the old. These pulp canals vary in length sometimes coming quite to the grinding surface. The

enamel of the molars is interesting it being composed of two distinct layers. The inner composed of parallel rods, narrower than those of the incisors and traversed at right angles by cross-bars. The outer layer, evidently the periosteum, is composed of wavy calcified fibers, decussating mainly at right angles and traversed by interlacing bundles of such fibres, which in a longitudinal section of tooth appear to be cut transversely. Between the plain and cross-layers of the enamel there is no intervening zone, although the structure is strikingly different.

DR. W. C. BARRETT: I am sorry to see the falling off of attendance when so scientific a paper is being read. If we are a scientific body we ought to discuss the points or stay away. We can never rise to a higher plane if we do not take up the comparative anatomy or something of the sort in order to rise. The mere making of rubber plates or filling teeth does not cover the whole field of dentistry.

(To be continued.)

NINTH INTERNATIONAL MEDICAL CONGRESS.

HELD AT WASHINGTON, D. C., SEPT. 5, 6, 7, 8, 9, AND 10TH, 1887.

[From advance slips supplied by *The Medical Record*, of New York, from its special report.]

(Continued from page 478.)

SECOND DAY—AFTERNOON SESSION.

DR. JUNIUS E. CRAVENS, of Indianapolis, Ind., read a paper on

THE MANAGEMENT OF PULPLESS TEETH.

This system is based on the proposition that a pulpless tooth is not necessarily dead. The pulp being devitalized, the tooth still retains life through its pericementum. The usual course of treating pulpless teeth with escharotics and irritants causes irritation and final destruction of the pericementum, and the result is that the tooth, instead of being preserved, acts as a foreign body, and will be thrown off by nature through abscesses; or, worse still, will lead to no end of nervous derangements.

The treatment suggested by the reader is to thoroughly cleanse the pulp-canal, and at once hermetically seal it with tin-foil.

The paper was discussed by DR. THOMAS FILLEBROWN, of Portland, Me. He did not agree with the essayist in the method outlined in the paper. The doctor gave a short synopsis of the method he employs in treating pulpless teeth, which, by the manner in which it was received by the Section, seemed to be the one generally pursued.

DR. A. W. HARLAN, of Chicago, Ill., followed, and likewise objected to the views expressed by the essayist. A dead pulp produces no irritation in the canal; the disease which it causes is beyond. If you could mechanically displace an odor—which the speaker denied—and should then fill the root-canal without any disinfection, disaster would inevitably follow unless there should be a fistulous outlet.

DR. W. C. BARRETT, of Buffalo, N. Y., in discussing the paper, stated whether viewed from the standpoint of pathology or etymology the paper is alike remarkable. That such a mass of absurdities could be presented at a meeting of the world's representatives in dentistry is to me astounding, and I protest against its acceptance as the standard by which to judge the intelligence of American dentists. Why the exploded dogmas of twenty-five years ago should be gravely and in all sincerity presented at such a meeting as this, is, I must confess, something for which I was not prepared. The assertion that a closed chamber in which exists the septic debris and the products of decomposition of a tooth-pulp should not be opened and evacuated, I can scarcely believe is made in calm earnest. The essayist has exhibited his complete ignorance of the progress of the past century.

Modern antiseptic pathology has taught us certain facts, and among these is the knowledge that the first step in the treatment of septic cavities is complete drainage; second, disinfection and the removal of all the products of disorganization; third, destruction of septic organisms; and finally, the complete sealing of the cavity against further infection. These comprise the essential steps in the treatment of septic root-canals. I will not insult the intelligence of those present by presuming to enlarge upon this and by going into the details of treatment, for this is not a body of tiros. But I do object to a consideration of the subject from the low standpoint of this extraordinary paper.

DR. T. E. WEEKS, of Minneapolis, Minn., read a paper on

MATRICES AS ADJUNCTS IN FILLING TEETH.

The essayist reviewed the different appliances for simplifying what would otherwise be very laborious operations. A perfect matrix should be simple in construction, cheap, easily adapted, and not too stiff, so that when applied it will yield just enough to allow sufficient gold to pass beyond the walls of the cavity for a good finish.

DR. S. H. GUILFORD, of Philadelphia, Pa., in a few brief remarks, indorsed the sentiment expressed in the paper.

THIRD DAY—MORNING SESSION.

DR. PRADERE, of Lyons, France, read a paper on

PHTHISIS CURED BY THE CONTINUOUS APPLICATION OF MEDICINE TO THE PALATE.

Immediately after the paper was read DR. JAMES TRUEMAN, of Philadelphia, Pa., moved that it should *not be accepted by the Section*, but should be referred, without discussion, to Section I., in General Medicine; also embodying that the Executive Committee be censured for allowing such a paper to come before the Section. The motion was seconded by Frank Abbott, M.D., of New York, but the Chair ruled that, inasmuch as the Executive Committee had seen fit to admit the paper, it would be out of order to put the motion to the house. Dr. Trueman dissented from the decision of the Chair and renewed his motion. The question being then called, it was voted to refer the paper to Section I.

CLINIC.

A number of gentlemen gave clinics in the treatment of diseased conditions of the oral cavities, and others demonstrated their methods of filling teeth and constructing artificial dentures for patients. These clinics are spoken of as the most successful features in this Section, and it is but just to say that a good deal of credit is due to DR. C. F. W. BÖDECKER, of New York, for the result.

DR. METNITZ, of Vienna, Austria, read a paper on

OSTEOMYELITIS.

The main feature of the paper was the report of two cases from practice.

The history of the first case was as follows: In October, 1886, a lady, aged forty-three, had two teeth extracted. A few days later she suffered with chills, which were followed by slight mental disturbances. The seventh day the patient became unconscious, in which condition she was brought to the hospital. Examination revealed that there was a large swelling over the left cheek, extending to the temporal region; the skin covering this swelling was tense and pale in color; the sclerotic was highly colored (yellow), and the skin showed yellow tinge; the pupils were without reaction. The odor of the breath gave evidence of necrosis. The submaxillary glands were much enlarged, and the neighboring tissues infiltrated. There was unconscious urination and defecation. Death occurred the following day. The post-mortem examination showed the membranes of the brain to be thickened and traversed by numerous vessels. The left hemisphere was covered by a layer of pus, and the right hemisphere showed considerable pus along the track of the vessels as well as several pus-depots. The brain-substance was quite soft. The examination of the oral cavity disclosed that of the two teeth extracted the upper alveolus had almost entirely filled up with healthy granulations, whereas the lower was filled with pus. The mucous membrane in the region of this diseased alveolus was very much discolored and could be easily removed in pieces. The probe discovered nothing but dead bone. All the muscles of the neck which are attached to the left side of the lower jaw were infiltrated with pus. The periosteum was separated from the left side of body and ramus of the jaw. The alveolus of the extracted wisdom-tooth communicated by two good-sized openings with the marrow-cavity, and the marrow itself was discolored and infiltrated with fat. The cause of this extensive destruction is no doubt to be looked for in the unclean condition of the alveolus after the extraction. Sections of the jaw show that the medullary canal was very much enlarged.

Kocher, Rosenbach, and Busch, in experimenting on animals, have found that it is impossible to produce an acute pus-forming osteomyelitis either through traumatic injury or chemical and mechanical irritation, but that such a condition can readily be

brought about by infecting the fresh wound in the bone by any decaying substance.

The second case was one of multiple osteomyelitis. The patient, male, aged seventeen, suffered from an attack of osteomyelitis of the humerus, the ulna, and the lower jaw. According to Billroth, it is not settled whether this condition (multiple osteomyelitis) is due to septic influences acting on various places at the same time, or whether the infection dates from one point.

Death in this case, as in the first, was directly due to acute suppurative meningitis. When we have to deal with a simple inflammation, energetic antiseptic treatment will prove quite sufficient. In severer cases of osteomyelitis Billroth advises that the seat of disease be reached as soon as possible—the pus evacuated, the cavity thoroughly disinfected, and dressed with antiseptic dressing. Many cases present no actual depots of pus, or abscesses, but simply an infiltration of the marrow. In such cases Billroth holds it of little value to open into the medullary canal. Neither does he advocate disarticulation or resection, because, in the first place, the exact extent of the disease cannot be foretold, and, secondly, the medullary substance of a patient suffering from osteomyelitis is in such a susceptible condition that a new injury would almost certainly prove fatal.

This paper was read by the essayist in German. No discussion followed.

(To be continued.)

SOUTHERN DENTAL ASSOCIATION.

NINETEENTH ANNUAL SESSION, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by "Mrs. M. W. J."]

(Continued from page 482.)

WEDNESDAY, AUGUST 31, 3 P. M.

THE subject of Operative Dentistry was continued. DR. STAPLES, (Sherman, Texas,) reading a paper entitled

CAUSES OF FAILURES OF FILLINGS,

of which he attributed 95% to lack of thoroughness, first on the part of tutors in selecting materials out of which to make dentists. As the "new departure" men say there is "electro-chemical

incompatibility between filling material and dentos," so also there may be electro-magnetic incompatibility between operator and patient; between the operator and his work, if the former is not made of the proper material himself. He may have been born slip-shod and raised slip-shod; then everything about him and his work will be slip-shod and lack thoroughness; or it may be he is born stingy; then he will lack thoroughness because he will use too little material, or he will not thoroughly clean out a cavity for fear of making it too large. "The all-gold crank" will not be thorough when other materials are to be used, but will attempt to use gold in mere shells which are liable to fall away leaving the fillings standing alone. More thorough work in diagnosis would have proved the tooth unfit for gold. More thorough care too is needed in making retaining pits, not to make them so deep or so broad as to sever the remaining walls from the source of nourishment. We want thoroughness at every point; a thorough application of one end of the instrument, with a thorough dentist at the other end.

DR. PARRAMORE, (Hampton, Va.,) next read a paper entitled

ASEPTIC SPONGE.

He said that man was but an aggregation of cells, in various stages of development, the white blood corpuscles building up tissue and transforming it into bone, muscle, teeth, hair, etc. In a drop of deep sea water, under the microscope, we see myriads of atoms quivering with life, but lacking the proper environment to develop into anything higher. A log of wood, or a piece of sponge immersed in the sea water is at once filled with these atoms developing in obedience to their new environment. These corpuscles and prototypes of other bodies require protection and assistance to reach their highest development. This is illustrated in sponge-grafting. Inflammation is an irritation occasioned by some stimulus causing an abnormal flow of blood to the parts. The vessels are over-dilated, followed by heat, tension, swelling, etc. The increased flow of blood, the first result of irritation, is an important point. What is its purpose? to aggravate? to increase the trouble to the destruction of tissues? or is it an effort of nature to repair injuries? an increased supply of material furnished for repairs or tissue-building? The result depends on the ability of the parts to appropriate the pabulum

thus furnished; and the ability of the surgeon or the dentist to aid Nature in this work is the practical point for our consideration. The pulp makes an effort to protect itself against caries or abrasion. In treating exposed pulps we want a deposition of secondary dentine, but not in the shape of pulp-stones, which is an abortive effort. When the pulp is exposed, irritation causes an increased flow of blood. If we place a small piece of aseptic sponge at the point of exposure, corpuscles will fasten themselves upon it. Cemented with fibrine, and nourished with pabulum, it will soon form an adamantine barrier behind which the pulp will rest secure, fearless of molestation. Dr. Parramore stated that he had thus used aseptic sponge exclusively as pulp capping for the last six months, preparing the cavity with great caution against wounding the pulp. The sponge, after thorough cleansing, was sterilized with bichloride of mercury, 1 to 500, kept at 180° to 200° of heat for an hour or an hour and a half, and then dried without squeezing, and kept where it would be as entirely free from dust or other contamination as possible. The sponge is cut with a ribbon saw to the thickness of $\frac{1}{16}$ inch and carefully examined with the microscope before washing and after. It is applied dry to the exposed pulp, the cavity being then filled with oxyphosphate. Everything used, including instruments, hands, etc., should be bathed in the bichloride solution. He did not consider that six months experience was sufficient to justify him in declaring the method a success, as time was necessary for demonstrating that, but the results thus far had been eminently satisfactory. Dr. Parramore further suggested the possibility of placing a portion of aseptic sponge at the apex of an open canal for the formation of bone material at that point, as a hint for the Association to develop.

DR. GEO. H. WINCKLER, (Augusta, Ga.,) read a paper entitled.

SOFT GOLD FOILS,

defining soft gold as gold rendered non-cohesive in the process of manufacture; that is, deprived of its welding properties. Previous to 1857 that was the only form of gold known to, or used by dental practitioners, and teeth were well preserved by its use. Fillings that were put in thirty and forty years ago are preserving the teeth in good condition to-day, though the fillings themselves are so soft that an excavator can be pushed into them.

When soft foil is used to-day, it is used honestly for the preservation of teeth, and never for show. Its great advantage is that it can be worked very rapidly, ten or fifteen minutes being sufficient to fill a cavity with soft foil that would require an hour at least with cohesive gold. It was also more readily adapted to the walls of a cavity, expanding laterally under pressure on the surface. In soft teeth a thick pad of gold can be placed against the walls of cavities, protecting them from bruises. Work with soft foil is especially advantageous in the case of delicate women and little children, as it avoids the fatigue of long operations with cohesive foil, and does away with the rubber dam, so objectionable to many. It also develops that manual dexterity which may be needed in the use of cohesive foil. For these reasons soft foil is best for all simple cavities with walls intact, (except in narrow fissures where cohesive foil is best,) under the free margins of the gums, where the gold has not time to get moistened the work is so rapidly done, in simple approximal cavities where knuckling is not required—if so they may be filled two-thirds with soft foil and contoured with cohesive, welding into undercuts, crown and buccal cavities connected by narrow fissures may be advantageously filled with soft foil, the fissures being filled with cohesive foil, secured by proper undercuts. Contour fillings begun with soft gold, with cohesive foil welded on, gives remarkable strength. Soft gold is used in ropes, ribbons, cylinders and pellets, Dr. Winckler preferring pellets, which are easily made and guided into the cavity, and are readily compacted and compressed. A square piece of gold folded on itself and then crosswise makes a mat which can be coiled in the fingers and crumpled, making an oblong pellet with one end quite pointed, the wrinkles of one fitting closely into the other, in inter-digitations.

A strip of gold folded cannot be so compressed but that it can be unfolded, but pellets made as above described and crumpled, cannot be unfolded. As the cavity is filled room should be left to slip the last one in against the wall of the cavity, as it slips more readily against tooth substance than between pellets. The instruments used are smooth, and care should be taken never to push a point through the foil as every such break diminishes the solidity of the filling. If after compression the cavity is not full enough, cohesive foil should be welded on, and finished with heavy instruments, and hand pressure or the automatic mallet, in

some cases using a lead mallet. For compressing crown cavities in lower molars, plugging forceps are used, with a pad under the jaw, and the other beak with a condensing point on the gold in the cavity. In some cases the powerful pressure of the muscles of the jaw can be utilized by having the patient bite upon a pad of block tin soldered to the beak of the plugging forceps. These fillings are built up certainly on the principle of a dove-tailed mortice. No. 5 or 6 gold foil is used, giving strength and pliability. The use of soft gold foil in the cases enumerated is no detriment to the use of cohesive foil when required. By practice in the use of both we can combine the advantages of both, and thus acquire the greatest skill.

The subject of

OPERATIVE DENTISTRY

being declared open to discussion,

DR. W. H. MORGAN took the floor. In reply to Dr. Marshall's paper, he did not think that the new amalgams were any improvement over the old. The old Townsend's amalgam was the best ever made. The old amalgams were made of coin silver, which contains a certain percentage of copper, which caused them to turn the teeth black, but they preserved the teeth much better than the white amalgams. No matter what filling material is used, decay is always due to leakage. Even cement will save the teeth if it is done over again often enough. In reply to Dr. Staples, he would say "born dentists" were invariably the poorest he had ever known. If men could be born ready made dentists, there would be no necessity for colleges. Education makes the man.

DR. McKELLOPS asked how about John Hunter and the fathers of dentistry who had no college education?

DR. MORGAN replied that he was not there when they were around and so could not say. In reply to Dr. Winckler's paper he would say that work could be done with cohesive gold that could never have been done with soft foil. The very fact that the profession had so largely abandoned soft foil was proof that it was not the best. Cohesive gold fillings would stand up solid when the tooth material was all worn away, while soft gold would fall off in pieces.

DR. WINCKLER offered to work against Dr. Morgan in similar

cavities, and fill larger cavities in less time with soft gold, using more foil by weight. This offer was not taken up.

DR. STAPLES replied to Dr. Morgan that a man must be born with certain capacities fitting him to be a dentist, or education would never make a dentist of him. To educate meant to draw out, and unless something was born in the man it could not be drawn out.

DR. STOREY, (Dallas, Texas,) said that he always came to the rescue of Texas—*Poetas nascitur, non fit*, might be parodied *Dentatus nascitur, non fit*, which might mean “not fit to be a nasty dentist!” He had never seen a tooth filled with soft gold that could not have been better filled with cohesive foil. He had had no success in capping nerves, but he was going to go home and try Dr. Parramore’s aseptic sponge, even at the expense of his patient’s feelings.

DR. BEACH, (Clarksville, Tenn.,) said that the true middle ground was to acquire skill in the use of both kinds of gold, and then use the one which the occasion required, often combining both in one tooth. He who saves the greatest number of teeth is the best practitioner, he who works the most intelligently and skillfully. It does not require more skill for one kind of gold than for the other. Any kind of gold, or plastic material, requires skill and intelligence. The man who confines himself to any one material deprives himself of many advantages, and loses many teeth that he might otherwise save.

DR. CATCHING asked for the floor for Prof. J. Taft, who was about to leave, and had something to say with reference to the Congress.

PROF. TAFT, President of the Dental Section of the International Congress, extended an earnest invitation to every one present to attend the Congress, and take part in the proceedings of the Eighteenth Section. He hoped that those who did so would also contribute according to their means to the general fund for entertainments in which all would share alike.

DR. McKELLOPS seconded warmly the appeal for funds, saying that it would be a disgrace to the dental profession to accept the hospitalities of the Medical Congress, and not contribute their share towards the different funds to be raised.

(To be continued.)

Compilations.

"Gather up the Fragments."

THE GRAFTING OF HUMAN BONE.

ON the 25th of November, 1886, a young man, seventeen years of age, had a complicated fracture of the right leg, about its middle, from which escaped a considerable fragment of the superior part. Succeeding this there were severe phlegmonous complications, the fractured extremities necrosed and were eliminated, resulting in a considerable loss of bone. In December, 1886, the fracture had not united, and the bones were from 35 to 40 millimeters (about $1\frac{1}{2}$ inches) apart, with a fibrous cord uniting them. The fibula, which was intact, formed a splint for the tibia, and had prevented a union of the osseous extremities. M. Poncet then tried the experiment of an osseous graft, and executed it in the following manner: From a leg which had just been amputated, on account of traumatism, he took the first phalanx of the great toe, dissected away its cartilaginous surfaces, getting a fragment one inch in length, which he antisepticized in a tepid solution of corrosive sublimate of one to two thousand. The pseudarthrosis having been exposed, M. Poncet cut away the fibrous bridge, polished the two bones, and placed the osseous graft in the fibrous tissue so as to bring it in contact with the inferior fragment of the tibia. There was no reunion; careful antiseptic dressing was continued. Sixty-two days after the operation the graft was completely covered with fleshy granulations, except in a space of three to four square centimeters in the middle, where the bone appeared of a pale pink hue. The mobility of the pseudarthrosis persisting, M. Poncet decided to make a resection of the osseous suture. In performing this operation he removed the graft from the attached portions of the bone, and observed the following important facts: The graft was intimately united to the tibia at one end of its extremities by a somewhat dense, tough, fibrous non-osseous tissue. Its entire periphery was covered by the fibrous tissue and a layer of more and more dense granulations. The bone itself was perfectly vascular and alive, eroded

at some points by the granulations heaped against the surface. This result shows that legitimate hopes may be built upon this method.—*Le Concours Medical*.

HARELIP OPERATION.

AN unusual case of harelip was operated upon by Prof. Lueske. The inter-maxillary bone was not present. The fissure passed back along the median line, where the septum of the nose was also wanting. So flattened was the nose that in profile no trace of it could be seen, what there was of it being entirely concealed by the prominent cheeks. Such cases are exceedingly unpromising, and even after repeated operations must necessarily remain very much deformed. The infant was bandaged in the lap of an assistant in a sitting posture; in front sat the operator as is his custom. The first step of the operation was to loosen up the alæ of the nose and the neighboring soft parts, in order to render the closing of the very broad fissure possible. The edges were freshened and united in a straight suture line with a great many deep sutures, in order to hold them as securely together as the great tension would allow. No dressing was applied. Several cases of harelip have been operated upon in the clinic in the past few weeks and afterwards treated without any probation, usually with good success. In one case the child had a violent crying spell the night after the stitches were removed, and the whole thing torn open again. It is probable that carefully applied strips of adhesive plaster would have prevented the accident.—*Cin. Lancet and Clinic*.

A SIMPLE METHOD OF REMOVING NASAL POLYPI.—DR. BELL describes a new, painless, and simple method of removing nasal polypi. His patient is instructed to blow strongly through the affected nostril while he closes the other with his fingers. This brings the polypus down so that it can be seen. He then injects into the tumor, with a hypodermic syringe, 15 or 20 minims of a solution of tannin in water (20 gr. to a fluid drachm). In a few days the tumor shrivels, dries up, and comes away without trouble or pain, the patient usually removing it with his fingers, or by blowing his nose.—*Canada Med. Record*.

Editor's Specials.

"Write the Vision and make it plain."

CONGLOMERATE TEACHING.

NO INDIVIDUAL lives long enough to be taught all science, or to attain all knowledge. Yet when we look at our schools from the primary up, we might conclude that this is not believed by those in authority. By the time the fourth or fifth year grade is reached the boy, if his health is not yet totally destroyed, should be supplied with a hand-cart to enable him to trundle his own and his little sister's books to and from school; for it is doubtful if he is able to carry his, while it is certain his sister cannot bear hers backward and forth without being overburdened in her debilitated condition.

In most of our professional schools the conditions are but little if at all better. Within the recollection of many of us, six or eight teachers taught us anatomy, surgery, physiology, etc.; and after mastering the foundation sciences, and the framework of professional knowledge, the students were ready to look into the specialties and subdivisions. But lately it seems to be necessary to give each special friend of a college a position, nominal or active, in its corps of teachers, hence division and subdivision, are resorted to, till the student is astounded, if not confounded, and the subordinate teachers, sometimes called "clinical instructors," and "assistant demonstrators" are each puzzled to pick out his own special department, so as not to cause discord by invading scientific territory claimed by a comrade. And after studying out what he is to teach, he is still at a loss to know where and when to "put in his licks."

Take a possible case in our own specialty: There is a very bright, intelligent, ambitious young dentist practicing in the metropolis of Nova Zembla, whose friendship for a college is desirable. Shall the senate of that college elect and announce him as Assistant Professor to the Chair of Gymnastico-Saltant Odontalgic Discomfort? or would they better call the old thing *jumping toothache*, and leave it to the care of the professor of oral surgery, without giving him a gouger?

We sometimes feel that the same trait of human character shows on professional journalism. "Too many cooks spoil the broth," was among the wise sayings of "Solomon Thrifty," and he took it from "Poor Richard," and even Pauper Dick didn't originate it. When we see a medical, or even a dental periodical, so loaded with editorial names that only in small print can the title page hold them, we think, now what if they should all go off at once? Then we find consolation in the hope that some may not be *loaded*, then we get scared in remembering that the unloaded guns do most of the killing, and we expect to be editorially killed, the next time their journal goes off.

Driven almost to despair we recall early memories and ransack histories to find precedents for our comfort. One is found and we embrace it: In the year 1543 it was agreed that all the men, women, boys and girls on earth should join in a simultaneous shout, hoping to learn, in "the good time coming," that the "man in the moon" had heard it. The day was set—the hour—the *minute*—HARK! Yes, that is what they nearly all did, after a solemn agreement to *shout*. Each one thought his feeble voice would not be missed, and he wished to fully enjoy the grand sound himself. So there was no shouting, and the scheme ended by an attempted *scream* from a mute in London, and from another in Paris.

We hope and trust that these multitudinous editors are legitimate descendants of the listeners, and not of the two mutes; and this suggests that they may not all shoot us at once, for it is discouraging to be so miscellaneously killed, in time of peace, by our best friends.

But comrades, pop in your articles, and when we like them so well we can't help it, we'll transfer them from your periodicals to the JOURNAL, and give you due credit.

But after all, if it is better to have one hundred and seventeen teachers in each college, and two hundred and fifty-nine editors to each periodical, let us have them that way. Why not?

GERMS AND DISEASE.

WERE it desirable the editor of the JOURNAL could demonstrate that he believed in and taught the germ theory of disease away back in the forties. But he never believed and does not now believe that germs are the only cause of morbid action.

Tell all your big stories about them, and the JOURNAL will agree to believe them. Say that 20,000,000 can occupy the space of a pin's head, and we'll fear that only that many would be scattered and lonely in such a vast territory, and try to send in a few more, say 50,000,000, for company. But don't tell us that they suspend the forces of Nature, gravitation, *affinity* and company, and do all. That is a step too far for the JOURNAL. Its line is drawn just back of that.

And further, when told that these germs secrete, or excrete an acid, and that this acid is probably *lactic*, or some other one, the JOURNAL, and probably others, may ask how it is known that the acid is the work of the germs, and not the result of direct chemical action. Let us bear in mind that these germs, and all organic formations, from the gonococcus to the giraffe, from the bacterium to the behemoth, from the leptothrix to the lion, all—*all* are formed from inorganic matter, each atom finding its place in obedience to chemical law, modified, but never suspended by vitality and other circumstances.

Some writer has told us of one of these little fellows whose natural increase is so rapid that, were it not for preventing circumstances, it would, in a short time, (hours mentioned by the writer,) overspread the earth. The JOURNAL has promised to believe this, and will add that by giving it a fair chance and a day longer, it might fill the solar system.

But "quick born, quick die," though homely, is a solemn old proverb. Early death is one of the circumstances preventing their too rapid increase; and, as is said of their comrade creatures in that beautiful hymn to the organic Kingdom, the one hundred and fourth psalm.

"Then do they die, and to their dust
Return again do they."

The return is not to *dust*, but "to *their* dust." And the same laws hold the germs. Each dead germ would remain exactly as it is, to the end of time, if let alone. But they "return"—go back to their original composition. They are composed mainly of carbon, oxygen, hydrogen, and nitrogen. In obedience to chemical force—affinity—vitality holds these in combination, satisfied or passive. But with vitality gone, they are no longer passive. They are active, and act by the laws of inorganic chemistry. They are released from organic law, and

“They may take who have the power,
And they may keep who can.”

And the oxygen grabs for both the carbon and hydrogen, and while he chews the carbon, Miss Hydrogen allies herself to his brother Nitrogen, and they take the family name of Mr. and Mrs. Ammonia.

May it be possible that, if about 50,000,000 of these germs should die within an hour, between two lower bscuspids, there would be ammonia enough to give sufficient nitric acid to start a white decay, which, when once started, is independent of dead germs?

It is unfortunate that so many who get after germs forget all else. Concentration is good in itself; but blind concentration is abnormal.

The Pacific Record of Medicine and Surgery, for September, has this in quotation marks: “Common sense, the undertaker of medical delusions, and bacterian fanaticism, is preparing the grave for the germ theory, in the universal causation of disease.”

This quotation is pointed and timely. Not that the theory of germs as a source of disease is to be buried, but the doctrine that they are the *only* source. Long ago Common Sense was elected to the office of “Fool Killer”; but probably many who voted for him didn’t know he was an “undertaker.” This, however, is in accord with the fitness of things, for he can the more certainly have the corpse ready for the funeral.

Let the germ theorists push their investigations to the utmost. We ask them, simply to remember that science is pushed in other directions as well.

Germs are chemical bodies, and the same is true of elephants. Bodies are built up and taken down strictly in accordance with chemical law. Every change in their structure results from, and results in chemical change. We cannot think or move without a change in our internal chemical structure. Hence, if the germ theory of dental decay, as now held by some, is true, it is not in opposition to the chemico-vital theory; and if it were, the JOURNAL would only inquire which is true. Let all think definitely, and agreement will more likely result.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

TO USE HYPODERMICALLY.—The muriate of quinine is the best salt for hypodermic injection.—*Medical Record*.

TANNIN TEST FOR DRINKING WATER.—DR. HAGER, in 1871, used a clear solution of tannin. Pour a tablespoonful of the solution into a tumblerful of the suspected water. If no turbidity occurs within five hours the water is good, if turbidity occur within one hour, the water is decidedly unwholesome.—*Med. and Surg. Reporter*.

TREATMENT OF BURNS.—An ethereal solution of tannin of the consistency of thick cream, is recommended in the treatment of burns and scalds. The evaporation of the ether leaves a pliable, non-elastic coating superior to collodion. It does not wear away with gentle friction, for some days, and very quickly relieves the intense pain of a fresh burn or scald.—*Dental Review*.

NEURALGIA REMEDY.—It is claimed that a few drops of the following—eau de cologne, ether, chloroform, ana ʒiij—poured on a handkerchief previously wetted with cold water, and placed on the seat of a neuralgic pain, gives instantaneous relief. It is also very efficacious for nervous headache. A burning sensation is felt at first, but quickly disappears.—*Medical Record*.

ALKALOIDAL CHARACTERISTICS.—PROF. A. VOGAL has observed that plants do not always contain their characteristic alkaloids when grown under other than natural conditions. Hemlock does not yield conine in Scotland, and cinchona plants are nearly free from quinine when grown in hot houses. Tannin is found in the greatest quantities in trees which have had a full supply of direct sunlight.

AN ALLOY RESEMBLING GOLD.—The *Jeweler's Journal* says that a pretty alloy, said to resemble gold exactly, can be made with 16 parts copper, 1 of zinc, and 7 of platinum. The copper and platinum are covered first with borax and the powdered charcoal and melted, then the zinc is added, and the alloy thus produced is exceedingly malleable, and can be drawn into finest wire, while it never tarnishes.

RADIATIONS FROM MELTING PLATINUM AND SILVER.—M. J. VIOLE has studied these radiations by means of a thermopile, one surface of which received the radiations and the other was exposed to a known source of heat in such a manner as to bring the needle of the galvanometer to zero. It was that the total radiation of melting platinum is fifty-four times that of melting silver.—*Comptes Rendus, American Journal*.

TO FREE IRON OR STEEL FROM RUST.—As often happens, a chance now occurs to note a process whose value should not be underestimated. A book-binder wishing to blacken iron places rusty iron or steel in stale beer (triple

beer). After five or six days the rust is perfectly dissolved from the metal, and a dark brown to black surface takes its place. This affords a ready means of cleaning old or delicate iron objects from rust.—*Uhland's Tech. Rund.*

SENSITIVENESS OF ENAMEL.—I would like to object to the statement that the enamel is destitute of sensibility, and that it serves simply as a shield for the more complicated, animated and vitalized structure of dentine. Few dentists to-day will maintain that the enamel is destitute of sensibility. From what I have felt in my own teeth, and what I have seen under the microscope, I must object to the statement that the enamel is less vitalized and less complicated in structure than the dentine. It is very complicated indeed.—CARL HEITZMAN in *Items of Interest*.

COCAINE IN INFLAMED TISSUES.—DR. J. R. CAMPBELL, of Newton, N. C., says a writer, recently said that cocaine was useless when injected into inflamed tissues, which is erroneous. I recently had occasion to incise a thumb for a neglected case of whitlow. Five minims of a ten per cent. solution of cocaine were injected into the ball of the thumb, and a like quantity just in advance of the second joint in the line of proposed incision. A bistoury was passed slowly and carefully down to the bone, and although the patient was a very nervous young lady, she felt no pain, and thought, until she looked at the thumb, that the operator had been merely paring her finger nail.—*Medical Record*.

TO DEODORIZE IODOFORM.—Of all the various substances used for the purpose of correcting the disgusting odor of iodoform there is nothing more effective than the aroma of a good quality of coffee such as Java or Mocha, the latter preferable it being the most pungent. The method I have adopted for this purpose is as follows: Take a half ounce vial and dry thoroughly by subjecting it to heat. Then obtain one of the above brands of coffee, pulverize it and fill the vial about one-third full, without packing, then fill the rest of the space with iodoform and keep the bottle tightly corked. In following the above directions you will have one of the most valuable of remedies relieved of the most potent objection to its use.—W. TAFT in *Dental Reg.*

A NEW LOCAL ANÆSTHETIC.—DR. J. HERBERT CLAIBORNE, JR., describes a new local anæsthetic which promises to equal, if not rival, cocaine. It is an alkaloid obtained from the leaves of a tree known as the Tear Blanket Tree, in the locality where it is found (West Feliciana Parish, La.).

Dr. Allen M. Seward, of Bergen Point, N. J., discovered the alkaloid and from the likeness of the tree to the *Acacia Stenocarpus*, dubbed the new alkaloid *Stenocarpin*. From personal observations and the results obtained from numerous experiments, Dr. Claiborne predicts for "*Stenocarpin*" a wide field of usefulness in all departments of surgery when local anæsthesia is desired, and it only remains to further experiment to develop all its possibilities.—*Medical Record*.

IODINE IRRITATION.—The external application of the tincture of iodine made with a badly rectified spirit, containing acetone, may be followed by great irritation of the epidermis, or even vesication, and similar results may occur when a preparation of good quality is used upon a susceptible patient.

The irritation may be removed immediately by the application of alkalies or alkaline salts, dilute ammonia or soda crystals being permissible where the epidermis is robust, as on the hands, whilst alkaline sulphites, bisulphites, or hyposulphites are preferable for more delicate skin. But the best agent is sodium sulphhydrate, an aqueous solution containing from one to ten per cent., according to circumstances, giving relief in a few minutes. It may be used also for removing iodine stains.

USE OF CAUSTICS IN SURGERY.—DR. J. FELIX highly recommends a caustic paste made as follows: Starch, 37 parts; wheaten flour, 112 parts; chloride of zinc, 110 parts; pure iodol, 10 parts; croton-chloral, 10 parts; bromide of camphor, 10 parts; crystallized carbolic acid, 10 parts; bichloride of mercury, 1 part. These ingredients, previously powdered, are mixed in a mortar and enough water added to make a paste of about the consistency of putty. He claims the following advantages for this paste: The pain is endurable and there is no general reaction. The slough is hard and limited, detaches itself rapidly, or can be easily removed by instruments. It has an alterative action and is markedly antiseptic. It is a powerful hemostatic. It is easily and accurately managed, not attacking the hands of the operator. Being neither fusible or deliquescent, it can be easily applied and left on a longer or shorter time, according to the action desired.—*La Thérap. Contemp.*

SALIVARY CALCULI.—DR. T. F. RUTHERFORD says: A few months ago was called to see Mr. R., aged about fifty years, a large muscular fellow, farmer of good habits. I found an abscess in the right submaxillary triangle. I made a free incision along the inner border of the inferior maxilla, under side of the tongue, and felt my lance grate over some hard substance. After a copious discharge of pus I made another cut at right angles and across the point where I had felt the grating, and removed two calculi about the size and shape of a 44-100 cartridge ball. They were very dense, and the large extremity of each had a smooth facet. Mr. R. told me that he had suffered on two previous occasions in same way with the same result—each time getting two “rocks” similar to the above. The attacks had returned regularly after a lapse of five years. The cause was doubtless the closure of the ducts of the submaxillary gland. The saliva being secreted had no exit—fluid reabsorbed—solids forming this calculus.—*Medical World.*

HOW TO MAKE SPONGES ANTISEPTIC.—Upon this subject, BERNBECK writes as follows: “Select sponges of moderate porosity; if they are too fine it is difficult to free them from sand and lime. Next, dry them, and free them from the coarser sand by repeated beating with canes. After this, place them upon a coarse hair-sieve, and wash them until the last water runs off absolutely clear and free of sediment. When this has been accomplished, soak the sponges for about two hours in a solution of potassium permanganate 1-1000, and then add crude hydrochloric acid until the violet color entirely disappears. This manipulation presents three advantages: while the sponges are disinfected, they are also bleached through the formation of free chlorine out of potassium permanganate and hydrochloric acid; and finally the residue of the lime, which often clings with great tenacity to the sponge, is dissolved by the excess of hydrochloric acid, and thus easily removed.

Subsequently, the sponges are repeatedly washed with water until the latter no longer reddens litmus paper.”—*Deutsche Medizinal-Zeitung.*

OUR NEXT PORTRAIT.

THE January, '88, number of the OHIO JOURNAL will contain an excellent portrait of its venerable editor, GEORGE WATT, M.D., D.D.S.

Societies.

"Wherewith one may edify another."

THE FIRST DISTRICT DENTAL SOCIETY OF THE STATE OF NEW YORK.

EARLY in the coming January the above Society proposes to hold its nineteenth anniversary.

To those who have attended previous meetings, under the auspices of the First District, it is hardly necessary to say that it will, in all probability, be a profitable and pleasant gathering. Every opportunity will be afforded those who attend to see and hear dentistry from a scientific stand-point.

We are creditably informed that the officers are now endeavoring to eclipse their former efforts.

For further information see journals for December.

Our Aftermath.

MARRIED.—Dr. Edwin J. Lilly and Miss Ada O'Vernon, Circleville, O., October 20, 1887.

MARRIED.—Dr. Charles J. Tibbetts and Miss Susie H. Warfield, Quincy, Illinois, October 12, 1887.

AN INFERENCE.—"Bright things fell from Bessie's lips," in Mrs. Holmes's last novel, probably means that Bessie dropped the gold fillings out of her teeth.

DR. FRANK W. SAGE has resigned his editorship of the *Cincinnati Medical and Dental Journal*. Dr. Sage's articles in that journal were original and interesting. We hope to see them continued in another journal.

AS OTHERS SEE US.—It is reported that the dentist begins to look down on the plumber. Every time the former puts fifty cent's worth of gold in the mouth of the patient he puts twenty-five dollars' worth into his own pocket.—*Med. Herald.*

"No, JOHNNIE, I can hardly afford to give you that dog, for, in addition to our having become attached to him, has a remarkable instinct.

"Like enough he has, sir! But what is instinct?"

"Instinct, my boy, is a mysterious something which prompts a beast to some action, independent of any consideration on his part."

"That's it, is it? Well, our dog's got that, but we call it fleas."—*Yonkers Gazette.*

SADLY AFFLICTED.—Pain! Pain! sighed an old lady. Here I have been suffering the bigamies of death for three mortal weeks. First I was seized with a toothache the paradoxism of pain being in one of my centrifugal ancestors followed with the bleeding phrenology in the hampshire of the brain, which was exceeded by the stoppage of the left ventilator of the heart. This gave inflammation of the left borax, and now I am sick with the chloroform morbus. There is no blessin' like that of health particularly when your'e ill.

MEDICAL SLANG.—The microscopist in this city who speaks of his slides as "toboggans" is only following a very prevalent custom among many of our younger medical men, of using slang phrases in place of the dignified terminology of pure science. This practice of substituting highly idiomatic Saxon or time-saving abbreviations for the pure phraseology of the text-book, has reached such extent that it needs a passing notice.

Illustrations of it are plentiful. Thus, one finds that sufferers from the most terrible of specific disorders are lightly referred to as having "syph," and that pregnant monosyllable is also applied to the whole science of syphilography. Students in pathology find that they are taking a course in the "bug-class" of the distinguished bacteriologist who is only a bug-man." By the same rules of condensation eminent specialists in laryngology, ophthalmology, dermatolgy, etc., are only "throat-" or "nose-men," "eye-men," and "skin-men." Gynecologists devote themselves to a specialty which, in the iconoclastic vernacular of to-day, is referred to as "woman's."

It would be somewhat horrifying for the laity to learn of all the various apparently unsympathetic synonyms applied in hospitals to the sad *exitus letalis* of the patients. To the poet and the preacher the "spirit takes its flight," but to the *interne* the patient has simply "pegged out," and the question is not as to the destination of his soul, but the disposition of his body.

It would be indelicate to say what term is applied to the classes in that most useful branch of knowledge, urinary analysis, and it would be ungracious to quote the pure Saxon by which the enthusiasts in laparotomy are designated.

Medical slang is a thing which is inevitable, and its use is not altogether to be deprecated. There is a deal of virility and meaning in many slang expressions; and we need only express the desire that these be neither excessively multiplied nor indelicately used.—*The Medical Record.*

THE OHIO JOURNAL

—OF—
DENTAL SCIENCE.

VOL. VII.

DECEMBER, 1887.

No. 12.

Contributions.

“A word fitly spoken is like apples of gold.”—SOLOMON.

NOTES FROM EUROPE.

BY N. W. WILLIAMS, D.D.S., GENEVA, SWITZERLAND.

AGREEABLE to your request I will, from time to time, give to the readers of your JOURNAL my impressions of the practice of dentistry in Europe as I may have opportunity to observe it. Everybody knows that American dentistry has spread to all parts of the civilized world, and through its presence and influence has, as it were, revolutionized the practice of our specialty wherever it has gone, and has made the saving of the teeth of every nation a possibility. That a nation so young, and a profession in comparison to kindred professions, yet in its infancy, should be able to teach the old world, and to supply it with men capable of saving such useful organs as the teeth, is one of the wonders of this present progressive age. That the people of the old world fully appreciate the progress we have made, one has only to know that every center has its genuine American dentist, and many pretenders, who are only Americans as far as the name of American dentist on their sign is concerned. That there must be the counterfeit among all good things in life, we are all painfully aware.

That our presence among native practitioners has had a good influence no one can doubt, for I know from my own observation and from what others of my confederates have told me, as the result of their observation also, that many of the native dentists have made wonderful progress where they have had opportunity to come in contact with good operators from America. Many are unscrupulous enough to assume the name without any real right to do so, and without the knowledge to carry on the deception very long, unless in large cities where the population is constantly changing. The native dentists look upon us as interlopers who are taking the bread out of their mouths; and it is only natural that they should wish to do what they can to prevent it. Some of them are wise enough to see that the best way to keep the bread is to make better dentists of themselves, while others—and the great majority I fear—try by other means to attract the practice to themselves. Some are content to merely assume the name of American dentist, without taking the trouble to cross the water to get a diploma, which, in many instances, it seems involved only a trip across the ocean for many of these fellows to return with a diploma, each as a full fledged D.D.S., without their patients being hardly aware that they had been absent, and know it only when they see the “sheepskin” hanging upon the wall of the reception room, and the sign hung out with the legend on it AMERICAN DENTIST. Of course many who go over, I am glad to say, are sincere about it; learn the language, take the proper number of courses, and come back fully prepared to practice. But that some of your colleges have, as it were, let whoever might apply from a foreign land, have a diploma after a few months listening to lectures they could not understand, from the fact of having little or no knowledge of the English language, has become so notorious that the governments of these countries have had to step in and pass laws to keep out the Americans. Some of the States have already such laws in force, and others are preparing to pass them; all because some of her colleges have been so greedy for money and a long list of graduates from foreign lands. What a shame that the good results of the grand progress our profession has been making in Europe, should be checked by our own short sightedness, or by that of the managers of some of our lawful schools! I do not believe these laws are being passed to keep out genuine Americans who are

well qualified, but the authorities found that their own people, who could not by any possibility pass through their own institutions of learning, could go to America, be absent a short time and return with diplomas which gave them a position they were not qualified to fill, thereby deceiving the public. Even our cousins in old England have had to hedge themselves about with laws to keep out this poison which is destroying the good these countries were receiving by the wonderful advances our beloved specialty has been making in the last half century. Here is what the president of the British Dental Association has said in his address before the society just held in Glasgow: "Surely two out of so many dental diplomas granted in America is too small a proportion to be found deserving a place on our Dental Register. Probably we ought now to congratulate ourselves that the issue of really counterfeit diplomas is at an end, and that in this respect some improvement has been effected. It is over a dozen years since we had here in Glasgow, an agency for the sale of bogus diplomas, and at that time I was favored with a visit by the accredited agent of one of these so-called American colleges, having full authority to examine *in absentia*, and to grant any or as many titles as might be wanted. This man's agency extended to granting the degree of doctor of divinity, medicine, dentistry, and some other professions; and the charge was moderate considering the outlay usually entailed in the acquisition of such honors. So flagrant an abuse could not long survive. This "college" was suppressed, and it does not appear that such honors are now to be had on like easy terms. We have something still, however, to hope for at the hands of our trans-atlantic brethren. We are still left to contend with the varying value of American dental diplomas, nor can we be content that the title conferred should acquire by crossing the ocean a fictitious value, that it should have one meaning in America and a different meaning here. The situation is no doubt a difficult one. We may be unable to realize adequately the difficulty of finding a remedy, but while we suffer under it, we are interested and must welcome every indication that the subject will yet receive the attention it merits. Surely the country which has done so much to enhance the usefulness and extend the resources of our profession, is capable of producing a Tomes—aye, and a Smith Turner too, the ability to plan, and the energy to carry through such meas-

ures as will gain for American dental qualifications a more satisfactory *status*, and fit them, one and all, to take their place on a footing with our own license in dental surgery."

I feel quite sure our leading educators are finding, or will find some means of overcoming this evil, so that no one may have any reason to criticise us for giving the title of D.D.S. to any but the most deserving, and only to such as may earn the honor conferred.

OHIO STATE DENTAL SOCIETY.

[Discussions reported for THE JOURNAL by W. H. SILLITO, Xenia, O.]

THE EXTRACTION OF TEETH.

BY A. BERRY, D.D.S., CINCINNATI.

[Read before the Ohio State Dental Society, Springfield, Ohio, October, 1887.]

THE extraction of teeth, sometimes very difficult, and often one of the most painful of surgical operations, requires a high degree of skill for its suitable execution.

On this subject Dr. Koecher says: "When we consider the frequent necessity for this operation, and its beneficial effects, even so far as it regards its physical influences, the great importance of it seems to be placed beyond any doubt; and, indeed on all accounts, it must be allowed that there is not an operation in any branch of surgery more worthy of the particular consideration of the liberal-minded and scientific surgeon, than that which is the subject of our present remarks."

Prof. Taft remarks, "The extraction of teeth is an important operation, requiring for its proper performance, skill, judgment, and experience, as well as an accurate knowledge of the parts to be acted upon."

When a patient desires the removal of a tooth an examination is in order, to decide as to the propriety of complying with the request. If there is a probability of saving an important tooth by treatment the patient should be made aware of it. If extraction is still desired it is generally well to remove the tooth unless its retention is very urgent. Usually under these conditions, the patient having little faith or patience, treatment will

prove troublesome, and if successful the fee will be grudgingly paid, and the benefits obtained not properly appreciated; and if annoyances ensue, the dentist will be censured for not having acceded to the requested removal at the first visit.

The operator should be provided with an abundant supply of forceps, including several not found at dental depots, with small and sharp beaks of various forms and sizes, for seizing deep-seated roots, lancets, screws, punches, and a dozen or more elevators of different forms, and most of them with small thin points to penetrate between roots and the walls of the sockets.

It is proper before performing this operation to attempt to dispel the fears of timid patients, but deception should never be practiced. Respectful suggestions should be kindly received, but dictation ought never to be tolerated. The patient who absolutely persists in having a tooth extracted in the manner he desires should be summarily discharged.

In the removal of teeth the dentist should not become excited; and even in difficult cases he should keep cool. If discontinued, although he may try to avoid manifesting it by word or look, the patient will understand and be unfavorably affected by it.

Every tooth to be extracted, and especially those much decayed, should be carefully examined, the manner of applying force decided on, as well as plan of proceeding if an accident occurs, the instruments are to be selected, and the ability of the patient to endure protracted pain, if necessary, is to be considered.

Some anæsthetic should be used in the extraction of teeth, either nitrous oxide in suitable cases, or an application to the gums.

Lancing the gums, a barbarous, and usually a very painful performance, is rarely necessary. If proper instruments are skillfully used gums not lanced will very seldom be lacerated in the removal of teeth.

With the head in the best position the tooth is to be seized as near the border of the alveolus as possible, unless from the extent of caries there is fear of fracture, when small pointed forceps may, if necessary, be passed between the sides of the roots and sockets, or they may be so placed as to get a hold on a root by breaking opposite sides of the alveoli; or a small elevator may be inserted deeply enough in the socket by the side of a root to raise it, or such other means can be employed as may be thought feasible.

A tooth should never be extracted in a hurry. Force should

be exerted cautiously, and in the direction of least resistance, and the movements watched, with care taken to avoid losing the hold on the tooth or roots. By applying force gradually the shock to the patient, and danger from accidents, are lessened.

When a tooth is broken in an attempt to extract it the roots should be taken out if possible, in which there is seldom much difficulty with the necessary instruments and skill in their use, except in rare cases or an uncontrollable patient. Roots so left will often afford a chance to seize them or to remove them with elevators in a few months; while in numerous instances a small portion of a root left in its socket causes no subsequent annoyance.

In case of syncope, which very seldom occurs, cold water should be dashed in the face, a vial of aqua ammonia held to the nostrils one or two seconds, and the patient placed in a recumbent position with the head as low as the body, and if the dress is tight about the waist it is well to loosen it, which will usually be followed by restoration in a short time.

Troublesome hemorrhage rarely follows the extraction of a tooth, nor is it difficult to suppress. Styptics applied to the gums may sometimes be advisable, but they are useless in the sockets, pressure being the only reliable remedy. Pledgets of cotton saturated with cold or hot water—preferably the latter—packed closely in the socket, and a compress on them to make pressure when the maxilla are closed, with a bandage under the chin tied above the head, is the proper treatment, and will scarcely ever fail to stop the hemorrhage immediately. The compress may be dispensed with in a few hours, and the cotton removed in three or four days.

Treatment immediately after the extraction of teeth may be necessary. If there is severe pain, applications of hot water, tincture of camphor, or any of the numerous anæsthetics may be employed. When these fail to afford relief, morphia, or a dose of whiskey or brandy, may prove useful.

It is well to cut off with scissors prominent points of loose gums. If sharp edges of the alveoli are felt, they should be removed with cutting forceps or a file. When the sides of sockets of the molars are forced outward in extracting, they should be pressed into normal position. Pieces of alveolar process broken loose should be taken away. If the gums are much diseased, it is important to give a prescription for their treatment.

Dislocation of the inferior maxilla, an accident of very rare

occurrence, is to be reduced by making pressure on the molars, or where they were, with the thumb, or by placing corks there, and exerting force under the chin upward and backward which will readily prove successful.

When all the teeth of one or both maxilla are removed the patient, unless substitutes are now to be applied, should be directed to subsist on soft food, recollecting that a milk diet maintains its ancient preëminence for edentate persons, to eschew dead animals entirely, and to eat very slowly moving the food about the mouth to insalivate it so as to have it in the best condition for the action of the digestive organs.

DISCUSSION.

DRS. HARROUN, TAFT, and others disagreed, materially, with the sentiments of the paper. Nowadays first class operators rarely have occasion to extract teeth, and the professional extractors do not extract as many teeth that could be saved as they formerly did, being deterred by the agitation of the subject in the societies and periodicals.

DR. E. G. BETTY was astonished that a man of Dr. Berry's standing should put on paper and sign his name to such an outrageous doctrine; *i. e.*, That a good tooth should be extracted if the patient insists upon it. If of no more value than that, why does Dr. Younger take the trouble to implant or put back just such teeth? I would not allow any portion of a root to remain. Dr. Harroun told us last year of an easy way of removing them by the use of the engine and fissure burs. Syncope is failure of the heart resulting in anæmia of the brain. Place the patient in a recumbent position to restore the circulation of the brain—the blood by its own pressure will refill the depleted vessels.

DR. J. TAFT: Syncope occurs very frequently from a mental impression, and not especially from physical disturbance. If that is true, then it is possible to avert it by our manner and actions toward the patient. Sometimes a patient faints before the operation is begun.

REFLEX-(IONS.)

BY C. M. WRIGHT, D.D.S., CINCINNATI.

[Read before the Ohio State Dental Society, Springfield, Ohio, October, 1887.]

THERE seems to be a growing tendency on the part of some of the practitioners of a sister specialty in medicine, to trespass

upon our especial field. This had been observed occasionally for some years, and the articles in the New York *Medical Record* a year or two ago, were only more pronounced expressions of the idea entertained by a few, at least, of the members of this sister specialty. I refer to the disposition of certain oculists, who, in forming diagnoses of the diseases of the eye, attempt to investigate the condition of the teeth of their patients, justly acknowledging to themselves, the influence that abnormal irritation in this part, might have, reflexly, upon the tissues of the eye. The dental profession has always admitted, even before any definite knowledge of the subject had been gained by the experiments in this direction by modern physiologists, the possibility of a very intimate connection between the teeth and the eyes through the afferent and efferent nerves supplied to both.

The *vox populi* had long ago recognized the relation of the teeth to near and distant parts of the body and the superior cuspids, as we know by their popular name and by common consent of the laity, are believed to be intimately connected with the eyes. We know by this same evidence that the inferior cuspids are believed to be intimately associated with the stomach. Gastric troubles may be and are no doubt induced, reflexly, by disease of the inferior cuspids. This is not ridiculous. It is like many another medical fact, now abundantly proven by late scientific research, which had long been foreshadowed, as it were, by the broad proverbs of the people.

It is not ridiculous, when we think of the interdependence of the tissues of the body, each upon all the others. When we study the physiology of any, even the most simple and common reflex act, and follow the impression that is made upon an end organ of a sensory nerve, along the track of the sensory nerve to the centre, and back again to the various muscular tissues of the body, and then try to note and measure its effect upon the heart, the lungs, the vessels of the entire body, as well as upon the infinite number of muscle cells of the particular part especially, and visibly affected and toward which the impulse had been directed, we then begin to appreciate the wonderful interdependence of all the tissues of a complex organism.

To be able to see clearly all that is going on in my body at this moment, from the effects of this written page held in my hand and photographed by the rays of light reflected from it, on my retina, where it becomes an irritant and the cause of an impulse

and final nervous explosion affecting the digestive, vascular, respiratory and other structures of my body, would be to understand all the phenomena of reflex activities. If we could possess this power of perception of physiological conditions, how easy it would be to trace out variations of the same as developed in pathological conditions! We could then estimate exactly the value as an injurious irritant of every phase of dental abnormality. We would know just how much extra work a "sensitive cavity" in a tooth would impose upon the heart and lungs and vessels and other tissues of the entire body; just how much, more or less, of oxygen must be taken in; just how much, more or less, of carbonic acid gas must be given out; just how much, more or less, the secretive and excretive functions of the tissues must be exercised to balance and settle up with the great mogul nutrition. But we don't know these things yet, gentlemen. We are like children on the shore of a great ocean; we hear the roar of the waves; we see the ships sail by; we know even the geography of the sea; we have gathered shells and anemonies and read the story of Jonah and the whale, but we cannot begin to estimate the effects of the stone cast by our hand into the water. The ripples of circles are believed to go on widening and widening until they reach the uttermost shores and are then reflected back again and so on for ever and ever. So it is with nerve wavelets in our organisms—every passing breath that causes a sensation, vibrating through our sensitive nerves—returning after many days and years, and passing on into infinity. There is just so much in this subject of reflex action.

Now, why did I begin this paper by saying that oculists trespassed upon our field? Simply because ophthalmology has made no greater strides toward unraveling these mysteries than has odontology, and oculists are as much like children on the shore of the ocean of reflex activities as are dentists, and practically while oculists have devoted their microscopic attention to the eye, dentists have done the same to the teeth—and the oculist is no better fitted by this sort of study to diagnosticate lesions of the dental organs, than is the dentist to diagnosticate diseases of the eye.

When an oculist sends his patient to a dentist with the request that this or that tooth should be extracted, he is behaving in precisely the same manner and with no higher intelligence

than would the dentist if he should send his patient to the oculist and request the enucleation of the right eye, because of a lesion of a right cuspid tooth pulp; consultation and full explanations on both sides would be fair and honorable and profitable in either case.

A gentleman recently returned from the eye clinique of the Paris hospital said: "When a patient appears at the clinique for treatment, in Paris, the first thing we do is to examine his teeth, and have all stumps and roots and dead teeth extracted, then we begin on his eyes." Gentlemen, this is a broader view of a specialty practice than we have been in the habit of taking. Why should we not emulate it, and as Tomes has ingeniously shown that the teeth are dermal appendages, why would it not be a good form for us in our clinics and private practices as well, to greet a patient who applies to us for professional attention to the dental apparatus, with, "My dear madam take off your stockings and let me look at your feet; have you corns? Go to the chiropodist and have them extracted and then I can treat your masticators." This would not be so very far out of the way, we must admit, for we know that reflexly an irritated corn or bunion affects and causes profound impressions on the nerve centres which discharge volumes of energy through remote nerve channels communicating with the muscles of the brow, cheeks, lips, larynx, lungs and a whole host of other muscles of the organism. Why should we not infer then that the teeth are included in the list?

I have been encouraged in expressing these opinions by the reports from the Ninth International Medical Congress which give the inaugural address of Nathan Smith Davis, M.D., LL.D., President of the Congress. In this address the President says: "Indeed the most defective and embarrassing features in the science and art of medicine, at this time, is the rapid accumulation of facts furnished by the vast numbers of individual workers, each pushing investigations in some special direction without concert with his fellows, and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he involves. Hence he is constantly unslaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data."

I have also felt at liberty to make these remarks and to call ophthalmology a sister specialty, after reading an editorial from Dr. J. Taft, in the October number of the *Dental Register of the West*, in which he says: "Dentistry, as a specialty of the healing art, has, within the past few months, been *officially* placed side by side with other departments of medical practice."

This it seems to me gives up the privilege of inaugurating a family quarrel.

DISCUSSION.

DR. J. TAFT: If there is this interdependence between the different parts of the body, should not all the specialists confer together—the laryngologist, the ophthalmologist, etc.

DR. H. A. SMITH: I think the discussions brought about by the *Medical Record* articles have resulted in good to both professions. Have we not been inclined to overdo in the retention of pulpless teeth and roots in the jaws, and were not the medical profession justified in their criticisms because of the indiscriminate saving of pulpless teeth? Dentists are more judicious in the matter and physicians consult with them more than before. I want to compliment the specialists of this city. They are more careful in diagnosis and invite consultation oftener. As for Dr. Sexton he does not know much about dentistry.

DR. J. TAFT: Probably I can explain why Dr. Sexton takes such an interest in dentistry. He had two uncles who were dentists, and he at one time thought of studying dentistry, and did study for a short time. Often the inflammatory process extends from the molars to the tonsils and the throat.

DR. H. A. SMITH: Is it caused by septic matter carried from one point to another, or is it nervous-reflex-action? Where we have a diseased condition of the alimentary tract, we have it manifested or reflected at the margin of the gums in pyorrhœa alveolaris.

DR. J. TAFT: You may call to mind many instances where the irritation is at one point and the manifestation far away.

DR. C. M. WRIGHT: The science of medicine and dentistry is not an exact one. We treat diseases empirically. The medical journals show that the treatment of diseases known for centuries varies from day to day. I know of instances where oculists have ordered out this or that tooth, or of an amalgam filling ordered out for a special purpose. Instead they should send them to us for consultation.

TREATING AND FILLING DECIDUOUS TEETH.

(NO PAPER.)

DR. J. TAFT: Prophylaxis is more important than filling. Induce a proper care and use of the teeth. Always arrest decay in its incipiency by cutting away, dressing down, or by filling in the easiest way possible. Cutting away is permissible to a greater extent than in the permanent teeth. The cements, tin, and gutta-percha are all good for filling. Many good operators use amalgam and I do not see that there is any special objection to its use in that way.

DR. C. H. HARROUN: One reason we know so little on this subject is, that we have so few opportunities to do anything. Another difficulty is that people will insist on having the deciduous teeth extracted, and if you will not do it they will go elsewhere and have it done. As a filling, I sometimes use tin and gold cylinders burnished in, or soft gold; in fact anything that will do.

DR. GEO. W. KEELY: The temporary teeth are as valuable to the child for masticating purposes as are the permanent ones to the adult. If you get the confidence of your little patients you can do almost anything. I fill for children from two and one-half years on. Whenever a temporary molar is extracted prematurely, it will, in every case, cause a crowded condition of the permanent teeth, also, the early irruption of the permanent molars. The permanent first molar will in every instance come forward and occupy part of the room due the bicuspid. If there is decay in the temporary molar, proximal to the permanent one, cut away the decay with a disk.

DR. H. A. SMITH: The interdependence between the two sets of teeth has been questioned, or that the regularity or normality of the second set depends upon the retention of the first. Charles Tomes, in a late work, calls attention to the fact that where the entire temporary set has been lost, a very regular and beautiful set of permanent teeth had been irrupted. It is doubtful if the stimulation of the deciduous teeth in mastication affects the permanent ones. The prime consideration should be the care of the teeth by parents. A child two and one-half years old was brought to me. The mother had cleansed its teeth two or three times a day and the teeth were absolutely perfect. The parents of the child have imperfect teeth, therefore I think it was the care bestowed upon the child's teeth, rather than heredity. The roots

of pulpless teeth are absorbed, if not surrounded or bathed in pus. It is too late a day to discuss whether or not dead tissues are absorbed. There are thousands of sets of irregular teeth where all of the temporary teeth were retained. We do not know as much about these matters as we should, because we do not make records, each day, of our observations.

DR. C. H. HARROUN: Think improper, or rather, unphysiological marriages have much to do with the causes of irregularity of the teeth.

DR. F. H. REHWINKEL: Each case must be judged by itself and not by rigid rules, only being guided by general rules to save going wrong. Laws cannot be laid down that will do for every case. Heredity and a mixing of races has more to do with irregularity than anything else. (He related a case of a child's teeth with exposed pulps where he had to extract the teeth.)

DR. GEO. W. KEELY: In case of exposed pulps of the deciduous teeth, I use a little nitrate of silver dissolved over the pulp to deaden it. May have to repeat it next day.

DR. J. TAFT: Think the pulps, in the case cited by Dr. Rehwinkel, might have been removed without greater disturbance than that caused by the removal of the teeth.

DR. A. W. HARLAN: A masticating apparatus for a growing child is just as necessary as for a man, and it is unfortunate that we cannot always do much for them because of a lack of knowledge by parents as to the necessity for their retention. I do not know that I can censure either the parents or the family physician. If parents would take in hand the care of these teeth the general health of the child would be greatly improved. It is fortunate if they do not fall into the hands of a man who considers his time too valuable to be wasted in cultivating the management of the child. I have been especially careful to retain the *temporary cuspids* and *second molars* until they are "exuveated" as Dr. Patrick says. There is not as great danger to the regularity of the permanent set when the temporary first molar is lost as the second molar and cuspid. In spite of the theory that if all the temporary teeth were removed there would be no greater liability to irregularity of the permanent teeth, forces may be, and are, at work, that tips forward the permanent first molar and closes up that space. If we can retain the temporary first molar until the ninth year and the second until the tenth or eleventh

year (depending on the locality) we will assure to a great extent the regularity of the permanent teeth. How accomplish this? By the exercise of a great deal of patience, and the judicious filling of the teeth. Each tooth must be judged when it presents itself and be treated accordingly. When there are proximate decays and the pulps dead, the phosphates do not commend themselves for fillings. You will get better results from the gutta-perchas than from amalgams, or cements, or tin and gold, or from tin alone. Base-plate or red gutta-percha is more easily replaced and does not wear away as rapidly as Hill's stopping or other gutta-perchas having mineral constituents. I often bridge the space between two molars with gutta-percha and have good results. If you leave the space food lodges there and in picking it out fillings are dislodged so I prefer to bridge it. Have never bridged with amalgam. I bridge over only in certain cases, not all cases mind you, and only in living teeth. I never bridge over when the pulps are dead. The roots of pulpless teeth are absorbed or dissolved in a different manner from those of living teeth. If they do not come away when it is time for the eruption of the permanent teeth I extract them if I know them to be pulpless.

NEAR APPROACH TO, AND DEVITALIZATION OF THE DENTAL PULP.

BY J. E. ROBINSON, D.D.S., CLEVELAND.

[Read before the Ohio State Dental Society, Springfield, Ohio, October, 1887.]

I AM tempted to present a few thoughts inspired by reading some jottings of Dr. D. R. Jennings which were found lying unguarded on his desk one morning last summer. So nearly did his thoughts harmonize with my own experience, that, with his permission, I have adopted many of them and inserted them here.

There has been a great deal of discussion during the past few years in regard to the best manner of treating exposed pulps: many still claiming that at least a very large per cent. can be saved alive, restored to perfect health, and made to perform all the functions of a pulp that has never been disturbed by exposure caused by decay, or by careless or accidental uncovering during the process of excavating.

So thoroughly and with such persistency was the certainty of being able to save the nerve alive by treatment, taught by

most of our leading operators, that to deny it was simply to proclaim one's ignorance and acknowledge an inability to keep pace with the march of improvements in the profession. With many others the writer was led to make a few trials and with such seeming success that the nerve saving theory was fully adopted in his practice. But the Grim Reaper having spared him long enough to see the final results of the nerve saving, not only in his own treatments, but also in that of others who taught the doctrine, faith in the soundness of the nerve saving theory has been shaken. My observation leads to the conclusion that not one pulp in one hundred lives three years after exposure, though the nerve be never so carefully and thoroughly treated and capped, and the cavity afterward excellently filled.

The value of the pulp and nerve is governed very largely by the age of the patient. Few persons over fifty years of age have any pulp; the nerve may be there but the pulp is gone, its mission having been completed and the space almost filled with calcific matter. In fact, of so little importance is either pulp or nerve to the usefulness of the tooth of a person advanced beyond middle life, that in many cases we find the entire canal obliterated or filled with a calcific deposit. Still it retains its sensitiveness in a degree to the action of the drill or excavator. I am therefore led to believe that in all cases where the patient has arrived at an age when the teeth show considerable wear or the gums have begun to recede, it is better to destroy as much of the exposed pulp and nerve as remain and fill the space; it is much more satisfactory to yourself and patient. The uses of the pulp and nerve filaments are to assist the development by furnishing nourishment to the tooth, and after its specific functions are performed it is doubtful whether the loss of the nerve is of any great moment. At least we all know of very many teeth from which the nerves has been removed and the canals properly filled that have been useful and without pain or discomfort for a score of years or more. Of course it is much to be preferred that there should be no exposed nerve, but this is not always within our control and we must be prepared to meet all cases as they are presented.

Though with children the inducement to save the pulp is stronger than with adults yet I think that in most cases the tooth can be saved to a longer period of usefulness by immediately destroying the exposed pulp than by striving to save it alive. In

these days of ice-water and hot tea and biscuits the thermal changes to which the tooth is subjected are so great that even after treatment and careful capping there is a liability to pain and subsequent death of the nerves that under other circumstances might have lived. From this cause the terrible abscess and perhaps necrosis are often present before the patient is again met.

My conclusions are that it is always safer to destroy a fully exposed nerve, *cleanse* and *dry* the cavity and thoroughly fill. I hope to hear without reserve from those holding different opinions, and for this purpose alone has this hastily written paper been presented. It is possible that some who have investigated and perhaps met with different results in saving nerves alive, have some suggestions to make that will help us, at least in the cases of children and very young persons whose teeth would seem to be better with the saved nerve, if the operation can be made an assured success.

DISCUSSION.

DR. D. R. JENNINGS: I find that the men who save these exposed pulps do so in their minds. I do not mean those cases covered with a thin layer of decayed dentine where you would expose a pulp if you cut down a little more, but those actually exposed. As for the non-conductivity of the various phosphate cements, I had some of them tested by the well known electrician, Mr. Charles Brush, of Cleveland, and the result was: Dawson's 7% less than gold, Fletcher's porcelain 5% less, and the Ft. Wayne, or non-secret 13% less. People fifty or more years old have no dental pulps, they have nerve filaments which are often very sensitive, but no pulps.

DR. H. A. SMITH: A simple way to test the relative conductivity of different filling materials is to form uniform cylinders, on one end put wax and stand them on the other end on a lid over a pot of hot water. The melting of the wax will give you the facts in a general way but not the per centage.

DR. F. H. REHWINKEL: The application of chloride of zinc is the assassination of the pulp. When I meet a case that is hopeless I kill the pulp at once; use Squibb's arsenious acid without morphine or anything else.

DR. D. R. JENNINGS: When do you consider a case hopeless?

DR. REHWINKEL: If the patient is healthy I always give the

pulp a chance. If there is inflammation of the pulp, I doubt if it ever recovers its normal condition. Climate and changes of weather have much to do with the success or failure of treatment. Malaria in the system impairs nutrition to such an extent that operations in a malarious district fail, whereas they would be successful in another part of the country.

TIN AND GOLD AS A FILLING.

BY E. G. BETTY, D.D.S., CINCINNATI.

[Read before the Ohio State Dental Society, Springfield, Ohio, October, 1887.]

SO FAR as the preparation of the cavity is concerned it is done in precisely the same manner as it is for a gold filling, care being taken to have the borders heavy and solid enough to withstand the necessary malleting. The next thing is to prepare the foils for their introduction into the cavity. This may be done in one of several ways. Generally the form most used is the rope, it being made by placing a sheet of No. 4 tin upon a similar one of non-cohesive gold foil. This is cut into three parts and loosely rolled together. The lengths may be made to suit the size of the cavity to be filled or the tastes of the operator. As a rule they ought not to be so large as to choke the cavity, thereby cutting off vision and impeding rapidity of execution. Probably the best way to start the filling is after the manner in which soft foil cylinders are introduced, placing a piece at each angle of the cervical border and the third one upon these. This is to be continued until the cavity is half or two-thirds full when it may be thoroughly malleted into place. Upon this foundation the gold is built just as though the filling was being started. The finishing is done after the usual methods with file, tape, disk, etc. Some advocate the piling upon each other of a number of alternate sheets of tin and gold and then lightly pressing them together so that they will make a sheet corresponding to No. 80 though somewhat thicker. This is then cut into squares to suit. The pieces are introduced one after another just as cylinders are. If neither of these ways of preparing the foil suits the operator they may be made into cylinders the only requisite being that the tin and gold alternate. In preparing them it does not make any difference which metal is on the outside as far as the integrity of the

mass is concerned. It is better, however, to have the gold externally for the reason that it is easier to make the cohesive gold cohere to it than to the tin. There are several advantages which this combination possesses, one or two of which I may enumerate: It is easy of introduction and in consequence saves a great deal of time to say nothing of being cheaper to the patient than gold. For these two reasons alone it commends itself over amalgam being superior in every respect. In large masses it offers a much better resistance to thermal changes than either gold or amalgam, this point often being very desirable especially when there is great sensitiveness of the dentine. So far as the therapeutical effects of the combination are concerned I have but little to say for the reason that I know nothing further than that a hardening takes place which is accounted for by the action of the buccal fluids upon the two metals, they both being in contact and equally exposed to their action. Whether this is electrical or not I am not prepared to say.

DISCUSSION.

DR. A. W. HARLAN: Have used a great deal of the tin and gold combination, in filling cavities entirely and partially. The specimens of the material as presented by Dr. Betty are not nearly so compact as I use them. Have never used them quite so loosely twisted together for ropes. I cut the sheets into two pieces and in rolling endeavor to have a fine streak of gold exposed and the remainder tin. In finishing a filling with gold I depend on forcing the gold into the mass of tin and gold with deeply serrated instruments with wooden handles. In a proximal cavity, in a bicuspid with live pulp, one rope will fill one-third of the cavity. Am not particular about condensing the tin and gold when placing it in the cavity. I put a piece in one corner, another in the other and one between the two. It is wonderful how well they remain where you put them. If using a matrix I feel a security against a recurrence of decay in using tin and gold that I do not with cohesive gold. It does not seem to require the same amount of force as gold does to impact it against the walls. Tin and gold in blackening does not seem to penetrate the dentine nor discolor the surface. It is non-shrinkable. It doesn't rock in the cavity. It does not require such a loss of tissue in the preparation of the cavity as for gold. It allows of making retaining

grooves in such parts of the tooth as to least endanger the pulp. It is far superior to all amalgams except the precipitated-copper or palladium amalgams, the method of preparing which will be made public in a few weeks. Dr. Geo. H. Weagant, of Cornwall, Ontario, claims to have invented a copper amalgam that will not stain the tooth. [See *Dental Review*, November, 1887.] Tin and gold keeps the ordinary dentist up to his mark. He must know how to use it or the fillings will disintegrate. There are many people who cannot afford to pay for gold, or some teeth are not strong enough to stand the gold. Another advantage is that tin and gold may be inserted under moisture or without the use of the dam.

DR. J. R. CALLAHAN: I use the Herbst method in filling with the tin and gold. Can make a harder filling than by mallet pressure. Use a four ounce mallet.

DR. E. G. BETTY: Use a twelve ounce mallet.

DR. CALLAHAN: Don't want to after having had you try one on me.

DR. W. H. SEDGWICK: Always have the sheet of tin smaller than the gold so as to have the gold on the outside of the rope. I got the method of using it from Dr. Miller and it has proven very satisfactory.

DR. E. G. BETTY: I finish with No. 60 gold foil, annealing it and driving it into the mass of tin and gold. Tin and gold filling is far more to the credit of the operator than sticking a lump of amalgam into a cavity with his thumb. Dr. Harlan thinks the therapeutic effect is from a sulphide. It is possible a sulphide is formed thus: Tin and gold in contact form the plates of a battery both being equally exposed to the fluids of the mouth. Albumen, which is present in the mouth, contains sulphur; the decomposition of this by electrolysis would liberate sulphur which might immediately unite with the tin to form the sulphide. I am inclined to think, however, that it is SO_3 the acid radical of sulphuric acid, and that it is a combination of this with the tin which takes place, the tin taking the place of the sulphur. I formerly used a great deal of Robinson's fibrous filling, but find the tin and gold easier to use and adapt to the cavity. On removing old fillings of the former I find them completely disintegrated or powdery.

DR. J. TAFT: Two have used the term "amalgam without

mercury." If I am not mistaken the definition of an amalgam is a combination of metals, or an alloy, with mercury.

DR. C. M. WRIGHT: We can use the term if we wish. I think Prof. Taft will admit that if a black man marries a white woman, there is an amalgamation of the race without mercury, unless the man has been taking calomel. We used tin and gold in Europe, about fifteen years ago, rolled until it looked like a barber's pole.

DR. P. G. C. HUNT: Has any one observed any difference between the action of tin alone and of the tin and gold on tooth structure in the cavity? If there is anything better than pure tin for filling cavities in soft teeth I want to use it.

DR. H. A. SMITH: If we put a filling of gold into a cavity of sensitive dentine, we induce a low grade of irritation that invites or causes a flow of lime salts to the parts and a consolidation of the dentine under the filling. With tin and gold we have less conductivity and less irritation—now does this allow of or induce the consolidation of the dentine under it or which one results in the greatest solidification?

DR. J. TAFT: Under the gold this solidification cannot take place because of the rapid transmission of thermal changes, while the non-conductivity of the tin and gold allows it. I am not wholly satisfied with this admixture of metals but think it worthy of experiment. When an old filling of tin and gold is broken up it is found to be granular rather than crystalline which accounts for the density of the filling.

(To be continued.)

AMERICAN DENTAL ASSOCIATION.

HELD AT NIAGARA FALLS, AUGUST 2, 3, AND 4TH, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE.]

(Continued from page 532.)

MATERIA MEDICA AND THERAPEUTICS.

DR. A. W. HARLAN made the report and spoke of the year just closing as having been one of great activity in therapeutical progress. That dentists had gained a better knowledge of drugs and knew more about their use than in the past. That now you

seldom find, even in small towns, a dentist ignorant on this subject. He thought that the poorer medicines should be discarded for better ones. Who in this age of progress would recommend chromic acid when resorcine, or bichloride of mercury is at hand?

He spoke at length on the treatment and filling of pulpless teeth. That some dentists advocate immediate filling of these. He thought it safe practice where the pulp has just been removed and also where there is a fistulous opening. He excluded all cases where the drainage is through the canal, as it is questionable in these instances whether they can be filled without after trouble. Some advocate immediate filling in all cases regardless of circumstances. If the roots are straight and located in the superior maxillary, it may do to fill at once if the general health of the patient will permit, but roots are often tortuous and here lies the difficulty. Operators who ride the hobby of immediate root filling should be supplied with proper instruments and materials for thoroughly cleansing and disinfecting the root canals. No medicine that causes coagulation of albumen should be used to cleanse root canals. Some non-coagulator of albumen such as iodine, bromine, chlorine water, potassium water and other metallic salts being recommended. He spoke of the different filling materials, but the best material is one that is non-irritant, easy of introduction, impervious to moisture, and not disintegrated by fluids of the mouth. Further he spoke of the bad results that often followed immediate root filling.

DISCUSSION.

DR. BARRETT never followed immediate root filling after devitalization of the pulp, yet readily conceived circumstances under which immediate filling might be the most judicious treatment. If no septic condition was present, or no inflammation, or circumstances which complicate the case, it might be the proper course to pursue. On the other hand he was satisfied that the ideas of over-treatment are well founded. He had done it himself. He had often heard it repeated that the filling material ought to be an antiseptic, but he never subscribed to this. He seeks first to get the root in an aseptic and good healthy condition then uses any of the filling materials to retain that condition.

DR. RHEIN thought with the present improved drills the cavities can be easily burred out even to the ends of the roots, and

that it is one of the very best means of disinfecting roots especially where they have been in a septic condition for sometime and the disease extends into the canaliculi. He recommended the Morey drill for this purpose.

DR. OTTOFY said that while he agreed in the main with the reader, he does practice immediate root filling but carefully of course. If the root is free from septic matter it can be filled at once. It is not best to fill where the root cannot be perfectly explored. The treatment consists of adjusting the rubber dam and removing the debris thoroughly from the cavity before an entrance is made into the pulp chamber. When the canals are opened they should not be enlarged by burring but cleansed by use of small broaches. The tooth and cavity should be saturated with a solution of bichloride of mercury $\frac{1}{1000}$ followed by thorough cleaning of the root canals with cotton wound on broaches and dipped in chloroform or ether, which dissolves out all fats or other foreign substances. This is continued until all color and odor are gone, then wash out with $\frac{1}{250}$ bichloride of mercury solution being careful not to force this through the apex. After this solution has remained a few moments, a solution of $\frac{1}{1000}$ is pumped into the canal and through the apex, after which the canal is dried and peroxide of hydrogen used to free the root from pus should there be any present. After thorough drying the canals are wiped out with broach and cotton saturated with eucalyptol and dipped into iodoform then the gutta-percha dissolved in chloroform is immediately inserted and the cement following this. Where immediate root filling is practiced the patient should be robust and healthy with no disease about the mouth.

DR. ATKINSON: We are in serious conclave. There is no point of true therapy clearly made out in the statement of the paper. When the trouble arises from a coccus, kill this and you stop the destructive process, but where it arises from systemic troubles you must look farther for this result. When the digestion is impaired it is hard to get an aseptic condition. Where there is no pericementitis, clean out and fill the root, if you are sure it is encysted at the end. I agree with Dr. Barrett in as much as it needs nothing for a filling material but to exclude infectious substances. Dr. Harlan has a faculty of presenting his methods in such a manner that they can be taken in two or three ways, which is confusing, especially to our young men. He says,

in treating roots, that no coagulator of albumen should be used, but what is the first condition necessary to produce healing? It is this very thing. Chloride of zinc introduced into pulp chambers has a coagulating effect, and is one of the very best materials for this purpose known. He says the chromic acid should not be used, but what is the difference in the ultimate result between this and those medicines mentioned by him? In $\frac{1}{400}$ solution of chromic acid, you will get nearly an equivalent of $\frac{1}{1000}$ solution bi-chloride of mercury, and both are coagulators.

DR. PEIRCE: For thirty years carbolic acid was used as a dressing, and think that quite as many pulpless teeth were retained in good condition as with the more modern treatment. If it is certain that the root is aseptic there is no need of antiseptics. If the pulp has been dead for months and there is no fistula, more care should be exercised and no filling done until the root has been thoroughly disinfected. The sooner a tooth is filled after treatment, the better. If there is an abscess with a fistulous opening, fill at once, after cleaning the root, and treat the abscess externally. Where an abscess has been established use chloride of zinc.

DR. S. H. GUILFORD: In the treatment of devitalized teeth, we not only have pathological changes to deal with, but many other things, such as effecting an opening and getting the root into proper shape to fill. In regard to this procedure I want to say that drilling the root is a very dangerous proceeding in some cases, and the dentists who practice it must be exceedingly ingenious or skillful, to successfully reach the end of all roots. Who can tell whether the root is straight or crooked? It is dangerous to drill, and should be done only where it cannot be avoided. We can usually reach and treat the conditions without drilling.

I see no necessity for immediate root-filling. Why not take a little more time and be on the safe side. When the root is fully cleaned and prepared, by carrying up a pellet to close the foramen so that nothing can pass out I believe a metal can be safely used as a filling material, although many use the cements and gutta percha. We have no right to let a foreign material pass beyond the apex of the root, yet some advise pumping chlora-percha through the apical foramen, stating that it is encysted and does no harm.

DR. WATKINS: What is your method of preparing buccal roots of molars?

DR. GUILFORD: When the canals are so minute as to not admit of the finest broach, I do not prepare at all, for I think no harm will result from leaving them open. How would you prepare them with a drill and especially where the foramen is oval and nearly flattened?

DR. MCKELLOPS is opposed to drilling out root canals, as he has seen disastrous results from such practice. He said there was no danger from the use of gutta percha as a filling material, if the operator paid attention to what he was doing. Should the gutta percha penetrate the apex of the root, the patient will know it and generally make it manifest. He has tried all kinds of broaches and finds those made of gold the best. As has been announced there is no danger of the Morey drill going through the apex. In using gutta percha, if it is dipped in some essential oil as eucalyptus it will follow the root canal better.

DR. HARLAN: It is impossible to cut away enough material in burring out root canals to thoroughly disinfect them as some have announced. It is exceedingly bad practice to place a pellet of cotton, or any other substance that is pervious to moisture, at the apical foramen of a root and allow it to remain.

HISTOLOGY AND MICROSCOPY.

Dr. H. A. Smith reported on the section. He announced papers from Dr. Ottofy and Dr. Peirce. He spoke of having received a letter from Dr. Miller of Berlin, to whom \$100 had been sent for original investigation. He further stated that in 1882, at Cincinnati, a prize of \$200 was offered for the best essay on the etiology of dental caries. In 1883, at the meeting in Niagara Falls, Dr. W. D. Miller was declared the successful competitor and was awarded the prize, but at the closing session an action for reconsideration was taken, and the offer withdrawn. It is thought that the subject was not fully considered, for such doings would hurt the Association. Besides, Dr. Miller justly earned the amount, and the Association is duty bound to relieve itself of the debt. By vote, it was decided that the prize should be awarded as was originally intended; therefore the treasurer was instructed to forward the sum to Dr. W. D. Miller, of Berlin, and thus exonerate the Society.

(To be continued.)

SOUTHERN DENTAL ASSOCIATION.

NINETEENTH ANNUAL SESSION, 1887.

[Reported expressly for the OHIO JOURNAL OF DENTAL SCIENCE, by "Mrs. M. W. J."]

(Continued from page 541.)

PROF. J. B. HODGKIN, (of the Baltimore College of Dental Surgery,) then read a paper entitled

AMALGAMS.

He said that the making and working of amalgams was based on occult, hidden laws of metallurgy, like causes *not* producing like effects in metallurgic combinations. The behavior of an alloy cannot be predicted from a knowledge of its constituents. Two soft metals, as lead and tin, combined, make an alloy harder than either, yet becoming very soft by warming; tin and copper, both soft, in combination become hard and tough but not malleable. Tin 1 and copper 9, both soft, with $\frac{1}{200}$ phosphorus, also soft and wax-like, gives phosphor bronze, with greater tensile strength than steel. Iridium, which can be drilled only with the diamond, and fused only with the oxyhydrogen blow-pipe, melts readily by the addition of a minute portion of phosphorus, etc. Thus experiment only can solve the intricate problems of alloys, while if mercury is added, existing combinations are broken up, new ones formed, a more complex crystallization is set up, and only the most brilliant imagination can follow out the varying molecular arrangements and chemical action of the mass on itself and on tooth substance against which it may rest. The more elements are added to the mass, the less control we have of results. In concluding his paper, Prof. Hodgkin offered a Norfolk oyster supper for a case of "two approximal cavities in molars or bicuspidis filled with amalgam of five years standing, that are not leaking, but are still preserving the teeth." Also the same offer for an "amalgam filling next the enamel, with the dentine gone, preserving a tooth after five years," maintaining that in contact with amalgam, enamel becomes brittle and loses its integrity.

At the conclusion of this paper adjourned to 8 P. M., Thursday, the day having been set aside for clinics.

THURSDAY, SEPTEMBER 1.

DR. YOUNGER, of San Francisco, Cal., was present and made two "Implantations," one for a soldier from Fortress Monroe, an inferior central incisor. The tooth had loosened from the ravages of pyorrhœa alveolaris and had been removed with the fingers some months previously, the walls of the socket having been absorbed, offering a typical "bad case" for implantation. The adjacent teeth had fallen together so much that they had to be cut away with corundum disks, there being no time for drawing them back into proper position. The tooth to be implanted was sterilized and the nerve canal filled. The gum was then dissected away in the form of a flap and the socket in the jaw-bone drilled with trephines, the tooth selected having a very long root and corresponding closely in appearance with the adjacent teeth. The operation was pronounced a success by patient and observers.

The other tooth implanted was a superior bicuspid, implanted for a well-known dentist. In reply to inquiry he stated that the socket drilling was less painful than the average preparation of a cavity for filling. Very little, if any, soreness was perceptible the next morning in either case.

DR. A. E. BALDWIN demonstrated his method of "Immediate Root Filling," with hot air dessication as described in his paper read before the Association, devitalizing a superior second bicuspid, which had a large compound approximal and crown cavity. Dr. Baldwin filled the root with gutta-percha.

DR. B. S. BYRNES, (Memphis,) filled the crown cavity of this tooth with gold, using soft foil in ribbons. Dr. Byrnes also filled an inferior left third molar—buccal cavity—with the same gold, using bibulous paper instead of napkins or rubber dam. In his clinics Dr. Byrnes used the model instrument of his new hand-piece attachment, which is very readily attached to the engine with a movement or catch like slipping a bit onto a stock, with a half-turn clamp. A spring under the index finger regulates the strength of the blow, increasing it at will or arresting it completely. The force of the blow is given by the weight of the hammer instead of through a powerful spring, thus avoiding the unpleasant sensation of a springy blow.

DR. GEO. EVANS, (New York City,) gave several clinics with his "seamless gold, contour crowns," which are made to suit each individual case, an impression being taken of the roots. The

crowns are made in a mold and burnished down *a la Herbst*. In one case the roots were prepared and the crown ready for the mouth in twenty-five minutes.

Dr. Evans also exhibited specimens of his removable plate bridges, removable porcelain fronts of gold crowns, and his instrument for drying out root canals and dentine. This consists of a large solid silver oval bulb, to which is attached a broach. The large mass of metal retains heat so long that the broach can be dipped in ice water and without reheating the bulb boil out the fluid contents of root canals.

Dr. WM. N. MORRISON, (St. Louis,) filled nerve canals in very tortuous roots with gold wire through a very small crown aperture.

Dr. MORGAN, (Virginia,) in his clinic used the new double loop spring clamps of Dr. D. B. Freeman for holding the rubber dam in position and crowding the gum back from the margin of cavities extending under the gums.

Dr. L. P. DOTTERER, (Charleston, S. C.,) placed on the root of a superior bicuspid an all-gold crown made at the chair.

Dr. H. A. PARR, (New York,) crowned two superior central incisors which had been broken off seven years previously. The roots were in very bad condition a plate having been worn over them without any treatment of the roots. The gums were laid open to expose the roots which were badly abscessed, the fetid contents of canals removed and the canals treated antiseptically and filled with carbolized wood. Crowns were made at the chair and cemented into a band fitted around the roots with oxyphosphate cement. Dr. Parr also used his Universal Separators on a number of patients, obtaining in every case sufficient space in a few moments for examination or operating. This Universal Separator in a single form is applicable alike between incisors, bicuspid or molars in either superior or inferior maxillary.

Dr. J. J. R. PATRICK, (Belleville, Ill.,) exhibited his method of making crowns.

Dr. GENESE, (President of the Maryland Southern Dental Society,) gave several clinics in prosthetic dentistry, modeling several cases consecutively upon the same articulator. He made two complete upper dentures with his new pinless teeth, demonstrating his method of packing without excess of rubber and using the new Bishel Automatic Vulcanizer. His plates have a highly finished surface and exhibit all the natural lines of the

palate, the rugæ, etc. Dr. Genese also demonstrated the use of two new appliances, a syphon tongue holder and a spatulum and cheek distender, demonstrating their practical value.

DR. J. G. MOREY was on hand with his nerve and crown drills. In these drills the drill-head has spiral cutting wings with a thin edge which discharges all débris preventing clogging, terminating in a triangular reamer with a non-cutting cone-shaped point which avoids pinching the foramen; the shank is also pliable, enabling the drill to conform to curvatures of roots. These drills will be found invaluable in the preparation of root canals for crown or bridge work.

The exhibit of the S. S. White Co., the Welch Dental Co., the Wilmington Co., R. S. Williams and Gideon Sibley were very complete.

In the S. S. White exhibit A. T. Starr was engaged in stamping up crowns with their die-plates and hub-moulds, using the Knapp blow-pipe for soldering and filling. They also showed the Vulcan lining for vulcanite plates, a combination of gold and silver giving a pure gold surface next the mucous membrane at a cost of not more than 80 cents per plate.

The Mann Vulcanizer; the motor and battery of the Detroit Motor Co., with their improved switch-board enabling the operator to throw in 2, 3, 4 or 6 cells of the battery at will without moving from his position by the chair; the English patent Shaw Dental Engine with a firm upright standard and double grooved pulley and duplex driving spring; the Partz Acid Gravity Battery, a great economizer of chemicals and labor; Bing's bridge teeth with pins on the lateral surfaces for insertion in adjacent teeth, and their new slip-joint connection for coupling all hand pieces or the right angle attachment directly to any engine by a spring catch, constituted the principal novelties of their exhibit.

The Welch Co. had a full line of teeth, fine instruments and filling materials; also Dr. Genese's patents, Thompson's blow-pipe and the Rishel automatic vulcanizer. They had also the new dentrifice, Zonweiss, which has been analyzed by the professor of chemistry of the Baltimore University School of Medicine and pronounced perfectly neutral in all its reactions, and free from anything injurious to the teeth.

In the Gideon Sibley exhibit was seen the Hood and Reynolds vulcanizer, Williams' separator, and Brown's universal hand piece.

(To be continued.)

NINTH INTERNATIONAL MEDICAL CONGRESS.

HELD AT WASHINGTON, D. C., SEPT. 5, 6, 7, 8, 9, AND 10TH, 1887.

[From advance slips supplied by *The Medical Record*, of New York, from its special report.]*(Continued from page 536.)*

Dr. JENISON, of Minneapolis, Minn., read a paper on

ART IN DENTISTRY.

The essayist advocated the restoration in gold of all teeth that had been destroyed by caries, thereby improving both their usefulness and beauty.

In constructing artificial dentures more time should be given to the restoration of the features of the patient, and for that purpose single and not section teeth should be used.

Dr. JOHN ALLEN, of New York, discussed the paper, taking up the main points to be observed in constructing an artificial denture. He closed his remarks by saying that inasmuch as the countenance reveals the thoughts of a person, great care should be exercised in restoring lost features.

THIRD DAY—AFTERNOON SESSION.

Dr. R. R. ANDREWS, of Cambridge, Mass., read a paper on

THE ORIGIN OF THE DENTAL FIBRIL, ILLUSTRATED BY AID OF STEREOPTICON.

Dr. Andrews described his process of preparing and mounting the specimens for the microscope, which differed in no essential respect from the latest methods employed by others for that purpose.

In speaking of the formation of the fibrils, the essayist says there are two kinds of odontoblasts—those which are square toward the dentine, and others, just by the sides of the first mentioned, which are pear-shaped. From these latter, and not from the first (or square end ones), originate the dental fibril.

The stereopticon views presented by the doctor showed very clearly with what patience, earnestness, and intelligence the

essayist worked to establish his view of the question. And the hearty appreciation accorded him by the Section was well merited.

DR. FRANK ABBOTT, of New York, in opening the discussion, paid a high tribute to the reader of the paper for the hard work done in behalf of his specialty. In order to understand the process by which the dental fibril is produced, it is necessary for us to consider the matter from the third to the fifth month of intra-uterine life, at which period of the existence of the foetus the papilla of teeth are so far developed that a material change is observed to be taking place. The papilla is a mass of myxomatous tissue, liberally supplied with medullary elements. In some instances at three months, at others as late as the fifth of intra-uterine life, a coalescing of several of the medullary corpuscles into one may be observed upon the periphery of the papilla adjacent to the enamel organ, which at this period may be observed forming a cap upon the papilla. The united medullary corpuscles are known as odontoblasts. The impression has generally prevailed among histologists and embryologists, that the odontoblasts were directly formed into dentine. This theory, through recent researches, has proven to be incorrect. The odontoblasts, when viewed with a power of 1,200, show a delicate reticulum, which unites the nuclei with the walls of each corpuscle and with each other. This reticulum, as well as the walls of the odontoblasts, are the living matter which remains as the living portion of the dentine. Before the beginning of the deposition of lime salts, the odontoblasts are reconverted into medullary substance. As such they receive the calcareous basis-substance, and thus a certain territory of the papilla becomes dentine. While this process of calcification is going on, another row of odontoblasts makes its appearance, from the sides and ends of which prolongations of the living matter may be seen running into the canaliculi of the dentine already formed. A spindle- or pear-shaped odontoblast gives off one, while those with broad ends give off two, three, and even five, prolongations. If the views advanced in the paper were correct, it would necessarily follow that territories of considerable size would be left in the dentine with no canaliculi whatever; nor is there any provision for furnishing these territories with any living tissue.

DR. FLETCHER, of Cincinnati, O., read a paper on

PROTECTIVE DENTINE; ILLUSTRATED BY STEREOPTICON.

This paper was listened to with great interest by the Section. The slides which were shown on the screen showed the different kinds of protective dentine, and the essayist gave his views of how these different efforts on the part of nature to protect herself are brought about.

DR. W. X. SUDDUTH, of Philadelphia, agreed with the essayist in the practical conclusions drawn; he supplemented the reader's remarks by stating that the odontoblasts remain after the development of the dentine, but can be stimulated to produce or perform their function of forming protective dentine.

DR. W. H. ATKINSON, of New York, complimented the gentlemen on producing such well-digested papers.

DR. J. HOWARD MUMMERY, of London, England, exhibited

PHOTO-MICROGRAPHS OF ALL THE STRUCTURES OF THE TOOTH,
and explained the best method of producing them.

FOURTH DAY—MORNING SESSION.

MICROSCOPY.

PROFESSOR FRANK ABBOTT, of New York, and Dr. R. R. ANDREWS, of Cambridge, Mass., were in charge of this department. Every facility was afforded the members of this Section to acquaint themselves with dental microscopy, both physiological and pathological. Among the ground specimens shown by Professor Abbott were those of carious teeth, congenital pathological enamel, hyperostosis (osteomas) of the roots of teeth, and deposits of secondary dentine. Dr. Andrews exhibited serial slides of the developing teeth, and the development of the dental fibril. About forty negatives from his photomicrograph were especially interesting and valuable.

CLINICS.

About thirty gentlemen gave clinics in filling teeth with gold, pivoting teeth, constructing artificial dentures, and treating (surgically) diseased conditions of the gums.

C. L. GODDARD, A.M., D.D.S., of San Francisco, Cal., read a paper entitled

PAIN IN THE TEMPORO-MAXILLARY JOINT CAUSED BY IRREGULARITY OF THE TEETH.

Patient, thirty years old, experienced pain in temporo-maxillary joint during mastication, which was caused by straining the muscles and ligaments, owing to masticating with the jaw protruded. When the teeth were brought together, as in the act of eating, the incisors alone touched, and the bicuspid and molars were about one-eighth of an inch apart. The treatment employed consisted in spreading the upper teeth and thereby securing a proper articulation.

DR. E. S. CHISHOLM, of Tuscaloosa, Ala., read a paper entitled
THE INFLUENCE OF WEATHER CHANGES ON THE HUMAN ORGANISM.

After carefully noting the influence exerted by temperature, humidity, and electricity, the author concludes that by far the greatest power over human organism is exerted by atmospheric pressure. In support of this theory he submits two arguments. The normal atmospheric weight on man is 14.7 pounds to the square inch at the sea level. The body is sustained by an equal power of resistance, wisely provided. If the pressure be less, the surface of the body will be distended, and the superficial circulation less restrained. This change can be brought about by exposure to great altitude, as well as by natural physical causes, when the circulation will be disturbed just the same. Any undue pressure on a portion of the body may then be felt. May not this disturbance of tension on soft tissues which are fixed to the bony framework of man, or where disease has a seat in periosteal and ligamentous attachments, be liable to greater inflammation? Or when a nerve of a tooth, which in a state of health is inclosed in a bony chamber (which has no expansive liberties, nor needs them as long as health continues), becomes exposed through a small aperture; when the normal atmospheric balance is lowered, the nerve has a tendency to be drawn through the aperture and takes on inflammation, probably followed by congestion and complete devitalization.

A report from the Pennsylvania Hospital, some years ago, on the observation of barometric pressure in surgical operations, shows that in 259 operations the barometer was ascending in 102, descending in 123, and standing in 34. Fifty-four of the whole number were fatal, 11 having been operated on with barometer ascending, 25 when descending, and 8 when standing.

(To be continued.)

Correspondence.

"I charge you that this epistle be read."

THE OHIO STATE DENTAL SOCIETY.

SUGGESTIONS WISE AND OTHERWISE.

TO THE EDITOR OF THE OHIO JOURNAL OF DENTAL SCIENCE:—
The Springfield meeting was a better one than I had expected, considering the demands upon the time and talent of the writers and thinkers of the profession, during the past year, by the International and the many other gatherings. There were several good papers—notably Prof. Harlan's and Dr. Custer's—and the social part was ahead of previous meetings, but there is room for improvement in many things. The largest attendance was seventy-one. About six members were accompanied by their families—there should be more.

There were no clinics, a mistake the committee should rectify next year. All the live and successful societies devote one or two days to clinics. A demonstration conveys to those present more than a paper or speech possibly can without being too long or tiresome. An operator has little "tricks" that he never mentions in his essay, either because unconscious of them or he thinks everybody knows them. They may be the very things necessary to the success of the operation.

The program should be announced in the journals several months before the meeting. The more progressive societies do not now announce "Topics for Discussion" but a list of papers and authors, and the names of those who have consented to open the discussions. The papers secured, together with the voluntary essays, the discussions, and clinics, should make a program that would attract the profession from all parts of the State. Dentists who do not live in the large cities, where there are dental depots, expect to buy appliances and material at the meetings. Some claim that they get more from the manufacturers' displays and the little aside discussions there than they do in the open meetings, therefore would it not be wise to take this into account and

arrange to have the exhibits of the dealers in the same building as the meeting? At least one society, I think, announces that there will be displays of goods by all the leading dealers, and its Committee on Entertainment provides space for them in the building with the meeting, thus keeping the members within call.

The Ohio society will never be the success that it might be, so long as its members do not take enough interest in it to attend all the sessions. In the other States men go prepared to stay four or five days, while in Ohio they think they have done a big thing if they stay two days—one member didn't remain long enough to remove his overcoat, while the president and other prominent members couldn't wait for the regular adjournment, and the result was that when the members aforesaid adjourned, so did the society, much to the surprise of the faithful few who remained, including an invited guest from another State.

The Society could advance the cause of education by securing special rates to its members for professional books and periodicals and arranging with publishers to have specimens of each book or journal on exhibition as one of the features of the meeting. It would not cost much, if anything, and might induce some to buy or subscribe, who would not if they had never examined the publication.

WILLIAM HERBERT.

A CORRECTION.

EDITOR OHIO JOURNAL:—There was an error in my paper which appeared in the NOV. JOURNAL, as to Dr. Gardett's informant of the two cases in which syphilis was supposed to have been communicated by the transplanted teeth, resulting fatally to the patient. Dr. G. says: "I was informed" not that "he had been informed by Mr. Lemayeur." Mr. Lemayeur was the dentist who performed the operation of transplanting the teeth for this person.

With Dr. Gardette's large, and probably unequalled opportunities for observing the behavior of transplanted teeth, the statements of "so distinguished a father of dentistry" are worthy of special consideration.

Dr. Gardette says, "I shall preface this paper, by informing my readers that I arrived in Philadelphia in June, 1784, and

began to practice my profession; and that Mr. Lemayeur, with the reputation of an eminent dentist, had transplanted one hundred and seventy teeth in this city, in the course of the winter of the years 1785 and 1786, as he told me himself at Baltimore in the fall of the last mentioned year; and that of all those transplanted teeth, not one succeeded! Some became firm, and lasted, more or less so, for one or two years, in the sockets in which they had been inserted; but these cases were very rare. In the course of my practice, after that time, I had occasion to extract at least fifty of these transplanted teeth—most of them without instrument, with my fingers only—and to replace them with artificial teeth, while they were growing firm, and some of them never got firmly fixed in the sockets at all. I shall now relate some cases of that nature, which happened to teeth transplanted by Mr. Lemayeur.”

CINCINNATI, NOV. 16, 1887.

A. BERRY.

THOSE TOOTH CROWN PATENTS.

A. L. NORTHROP, D.D.S.

DEAR SIR:—In answer to your request on behalf of first District Dental Society of New York, asking for our opinion as to the legal position of the dental profession, with regard to the crown and bridge patents of the “International Tooth Crown Company,” in view of the recent decision of Judges Wallace and Shipman, in the Richmond and Gaylord suits, and advice as to relief from further claims made under the Low bridge patent, we have to say.

These suits involved the validity of the two patents to Casius M. Richmond, Nos. 277,941 and 277,943, for “Tooth Crowns, etc.,” the patent to Alvan S. Richmond, No. 277,933, for “bridge,” all dated May 22d, 1883, and the patent to James E. Low, for “method of supporting artificial teeth by bands cemented to permanent teeth,” No. 238,940, dated March 15th, 1881.

The first two patents covered what is known as the “Richmond” and the “Sheffield” tooth crown in all its varieties. They were held invalid, and therefore you are at liberty to make such tooth crowns without being in any way liable to the International Tooth Crown Co.

•

The complainants have appealed this case to the U. S. Supreme Court, but we do not advise you that any different decision will probably result. The practical result is that the tooth crown is free.

The patent for the Richmond bridge was also held invalid, but the Low patent was declared to be good. This Low patent covers a bridge attached to continuous bands cemented to adjoining permanent teeth, "whereby said artificial teeth are supported by said permanent teeth with dependence on the gum beneath."

The Richmond patent is, as you will remember, for a bridge supported by caps, and the Court held that it was not invention for Richmond to support a bridge on caps, but it was invention for Low to support a bridge on bands, taking all the surrounding circumstances into consideration, and that as a cap was nothing but a band with a roof on it, the Richmond bridge infringed the Low patent.

The practical effect of this decision, if the complainant chooses to follow it up diligently, and unless some new evidence is found, will be to shut the profession out from inserting permanent bridges supported at one or more points by cemented caps or bands without dependence on the gum.

As the matter now stands, any dentist inserting a Richmond bridge (according to the decision), infringes the Low patent; and an injunction would doubtless now be granted by any Federal Judge on application, on the strength of that adjudication alone.

An appeal can be taken by the defendants to the Supreme Court, a year or so hence, after an accounting by them, and determining the amount of profits or damages the complainant is entitled to recover.

The way of relief is for all the dentists of the United States, who supported artificial teeth on a band or bar, surrounding or extending between permanent teeth prior to September, 1878, to send to us at No. 833 Broadway, New York City, or to No. 9 Law Chambers, New Haven, Connecticut, a truthful description of what he did, and for whom, and where and when.

If such proofs can be made strong and clear enough to satisfy the Court that what Low described was well known, and had been long practised by dentists in the United States before Low claims to have done it, the present case might be opened for rehearing on the newly discovered evidence—or the Courts might

refuse to grant injunctions, upon the ground that the present decision would have been the other way if this evidence had been before it—at any rate, the question of the validity of the Low patent would be re-tried, if its owner ever had the temerity to sue a dentist whose mouth had not been closed by a license, in which he covenanted never to deny its validity.

Whether, in a suit against such a licensee, the Court would enjoin upon the *covenants*, under a patent declared void, either before or after the taking of the license, we can not say.

Your obedient servants,

SOLOMON J. GORDON,

833 Broadway, New York City.

JOHN K. BEECH,

9 Law Chambers, New Haven, Conn.

NOVEMBER 1, 1887.

Editor's Specials.

"Write the Vision and make it plain."

THE KILLED DOG.

THE OHIO JOURNAL must not become microbic, nor even bacterialized. As we have talked microbe since the death of our friend's dog, our best counsellor says, Let Dr. Black's dog-gone criticism in the October *Dental Review* rest for the present. And though it is hard to hold back the pencil, we must try to obey. In justice to Dr. B., however, we must correct a mistake or two. Dr. B. tells us that it was *life*, not light that he represented as "the preëminent force, etc." We are glad to note the correction, but can't see what he gains by it. Gravitation, heat, electricity or affinity may suspend life, while it is not able to suspend any one of them. The will of God "is the preëminent force," and all other real or so-called forces emanate from it, life being no exception. And this statement is sound chemical science.

The thing that spoils the dead dog and the bugs, yet *doesn't belong to them*, is the chemical force called *affinity*, and sometimes the microbes *come later* and help it. This is said now because Dr. B. seems to regard our former remark as a surrender to the bugs.

But, though we are ready to reply, as we can, to Brother Black's strictures, the JOURNAL is not ready, as it can do better. And we must take more care in writing our specials, as Dr. B. never fails to read them.

And now a word for our reporter. All our reporters are experienced in the business, and are generally successful. But we have learned that it is useless to expect accurate reports of chemical conversations; and microbes are quite as mysterious and unfamiliar. Dr. B. gives no hint of anything approximating items in our own experience. More than once we have been reported as saying, in every sentence, the very opposite to what we did say. We are sorry. But—? You tell.

A MISCELLANY.

ORDINARILY an acid combines with a basic oxide and a salt is formed. The acids generally seem to want alkalies, and the choice seems to be mutual. Some oxides seem to be so nearly on the dividing line that they play acid or base, according to circumstances. Water is a specimen of this class. As an acid it forms hydrates with potassa, soda, lime, etc., while with sulphuric acid, etc., it acts as a base, and we get sulphate of water and similar compounds.

The action of an acid is often misunderstood because the accompanying and resultant circumstances are not duly considered. Often we hear that the sulphuric is not a strong acid. A professor of chemistry wanted some carbonic acid. He put some marble chips into a retort, added dilute sulphuric acid, a few bubbles escaped, and all action soon ceased. He denounced the man that had sold the acid, the man that made the retort, and disappointed his class by letting the experiment go by default. He even got angry at the man who tried to help him for the future, by explaining the mishap and the way out of it.

Marble is carbonate of lime. Sulphuric acid displaces the carbonic acid and takes the lime. Sulphate of lime (calcium sulphate) is insoluble. An insoluble crust thus formed, shuts off further contact, hence a piece of marble immersed in sulphuric acid seventeen minutes or seventeen centuries will be slightly increased in weight, because an equivalent of sulphuric weighs more than one of carbonic acid.

In like manner it has been urged that sulphuric acid cannot be active in causing the black variety of dental caries, because a tooth thus affected has retained its original weight of lime salts. Of course it has, when we add that sulphuric is not a good solvent for bone-phosphate. Also we have been told that a tooth may be for weeks in sulphuric acid without losing weight, and that, therefore, it is not an acid, in the true sense of the term. The circumstance that arrests action on the marble chip is potent here also.

In a drug-store owned by a chemist of some note, we asked for carbolic acid. The proprietor said petulantly, "I have no patience when people with fair education miscall things. What you want is not an acid, but an alcohol." Our reply was, "But if it will neutralize an alkali?" "Of course that would prove it an acid," said he, "but it will not do it." But after seeing that it would neutralize soda he said no more.

Quartz rock is not sour to the taste, but it neutralizes alkalies, and has been called silicic acid.

But indefinite chemical thoughts are not limited to acids. Many dentists blame oxygen for all chemical mischief. They speak of the oxidation of tin fillings, often, when they mean chloridation. They speak of the oxidation of amalgam fillings when, sometimes, they mean sulphidation. And they, as well as some physicians, speak and write as if oxygen were the only active element in the chemical destruction of organic bodies. Think of hydrogen, nitrogen, sulphur, and phosphorus, as the first combines with each of the three others, giving us ammonia, sulphuretted, and phosphuretted hydrogen. Are these not odorous evidences of chemical decomposition? or do the germ-bugs make them? Bear in mind that we do not object to germs. They are *big* things in destructive processes. "A good many of them weigh a pound." But they are not self-created nor omnipresent, and hence don't always get there till after the chemical force called *affinity* has begun the work.

Nothing in this is intended for criticism, nor is it to have any personal application. Sometimes absence of clear understanding on a given subject, yet oftener thoughtless expressions, cause a waste of words and time, in our professional discussions. Our specials have none of the sharpness and fierceness listened to in our societies, still we are sometimes accused of "unmerciful crit-

icism," simply because of our opinions. This in self-defence, but more to correct misapprehension. In legitimate criticism the article, and not its author, is under consideration.

What We See and Hear.

EDITED BY L. P. BETHEL, D. D. S.

VEHICLE FOR MENTHOL.—PROF. REMINGTON says that the best vehicle for menthol for outward application is oleic acid, half an ounce of which will dissolve 200 grains of menthol in a test tube with aid of heat.—*American Druggist*.

LOCAL ANÆSTHETIC.—DR. WM. T. COGGIN recommends the following as a local anæsthetic for extraction of teeth: Oil wintergreen 2 drachms, chloroform 1 drachm, sulph. ether 1 drachm, hyd. chlor. 2 drachms, oil cloves 4 drachms, and alcohol $1\frac{1}{2}$ ounces. Apply with cotton pressed upon each side of the tooth.

REMEDY FOR STY.—A simple and effective remedy for sty has been found by me to be a solution of fifteen grains of boric acid to an ounce of water. By applying this solution three times a day to the inflamed part of the eyelid, by means of a camel's hair brush, this painful and annoying affection will be conquered very rapidly.—*Virginia Med. Monthly*.

ATMOSPHERE PURIFIER.—The Berlin Medical Association recommends the following new air purifier, as especially useful in the sick chamber: Take oil rosemary, 10 parts; oil lavender, 2.5 parts; oil thyme, 2.5 parts; nitric acid, 30 parts. Shake well before using. Saturate a sponge, and place in convenient position for spontaneous evaporation.—*Med. Classics*.

A GOOD STERILIZER.—DR. MILLER claims to sterilize the mouth, cavities in carious teeth, etc., by the following mixture: Thymol 4 gr., Benzoic Acid 45 gr., Tincture of Eucalyptus $3\frac{1}{2}$ fl. dr., Water 25 fl. oz. The mouth is to be well rinsed with this mixture, especially just before going to bed, since most of the damage by fermentative and putrefactive processes in the mouth is done at night, during sleep.—*Mitchell's Dental Chemistry*.

STENOCARPINE A FRAUD.—MESSRS. Parke Davis & Co., of Detroit, Mich., have found stenocarpine, the new anæsthetic that has attracted so much attention of late, to be a fraud. The sample analyzed contained a six per cent. solution of cocaine, and sulphate of atropia or some such salt. The leaves of the *gleditschia triacanthos* have been found to contain but a minute quantity of an amorphous alkaloid and this devoid of anæsthetic powers.

TO OBTUND SENSITIVE DENTINE.—DR. BRASSEUR recommends blasts of hot air alone or upon a mixture of chloral and camphor applied to the cavity. He has also obtained excellent results from *absolute alcohol*, six minims, and *veratria*, ten centigrammes, thoroughly dissolved, and *tannin* thirty-five centi-

grammes and glycerine, eight grammes added. Apply to cavity on a pellet of cotton and by use of hot air it penetrates the canaliculi, acting on their contents.

CHLOROFORM AS A HÆMOSTATIC.—DR. IPAACK, of Brussels, has found a mixture of two parts of chloroform and one hundred parts of water to be an excellent hæmostatic in bleeding of the gums after extraction of teeth. Probably it would be serviceable in other cases where only smaller vessels are ruptured. Chloroform requires about three hundred parts of water for solution; hence the above-named proportions of water and chloroform will not form a clear solution, but rather a mixture, which will have to be shaken up when it is required to be used.—*Pac. Rec. of Med. and Surg.*

REMARKABLE DENTITION.—The case of a child has recently been reported who had four sets of teeth before the age of fifteen years was reached. The first set appeared at the age of six months. These teeth were all shed at nine months. At eleven months she began teething again; another set of teeth being erupted in four months. Six weeks after these teeth began to crumble and were entirely lost. Her weight at this time was ten pounds. At thirty months of age the third set appeared, and these remained until the age of four years, when they were extracted. The fourth set began to erupt at eleven years, and the dentition was completed at fifteen.—*Dental Register.*

CLINICS.—No class of professional entertainment can compare with that afforded by seeing another actually engaged upon some new method or unfamiliar development of *technique*. One often reads with wide-opened eyes and mouth agape of prodigious developments of American dental art, and all of us were more anxious to witness with our own eyes the actual practice than to hear the theory of "how to do it." After all, an ounce of practice, especially when it is dental, is worth a hundredweight of precept. Clinics are what we all have need of, and it would spare us a good deal of valuable time if every one who brought a new procedure before a society should be bound to demonstrate upon a patient the practicability of his theory.—EDITOR *Brit. Journ. Dent. Science.*

ARTIFICIAL RAMUS AND CONDYLE.—DR. CUNNINGHAM at the last meeting of the Odontological Society, showed a very ingenious apparatus invented by Herr Rosenthal, which was designed to meet the following difficulty: The ramus and condyle having been removed for a sarcoma, it was subsequently found that the other side became dislocated, and, after reduction, for which an anæsthetic was required, slipped out again immediately. Gold bands were fitted accurately to the last molar of each jaw on the side where the bone had been removed, to the upper of which a slightly curved wire was soldered. The wire fitted loosely into a tube soldered to the band round the lower tooth and the bands themselves were fixed to the teeth by screws tapped into them. The apparatus entirely prevents dislocation, and although there is no lateral movement the patient can eat fairly well.—*London Lancet.*

MICRO-ORGANISMS OF THE MOUTH.—Some interesting observations as to the action of micro-organisms occurring in the mouth, upon some alimentary substances, and fecal matter, are recorded by M. Vignal. The author states that he has obtained from the mouth nineteen different kinds of micro-organ-

isms; of these seven dissolve albumen, and five cause it to swell and become transparent; nine dissolve gluten; seven coagulate milk; six dissolve casein; eight convert starch; nine convert lactose into lactic acid; seven change cane-sugar, and six ferment glucose. Artificially prepared, pancreatic juice and bile exercise no injurious effect upon the organisms. In the fecal matter, the author found six of the mouth micro-organisms and four others similarly active. The action of these micro-organisms upon food must be considerable, since the author calculates that one decigram of fecal matter contains upward of *twenty millions* of organisms.—*Cin. Med. News*.

DEATH AFTER EXTRACTION OF TEETH.—In June Mrs. William E. Barry, a young married lady living near Sparta, Hancock Co., Georgia, had seventeen teeth extracted. She retired in the evening feeling badly nervous, and during the night she died. Her death was unaccounted for, but it was thought that the extraction was the cause of it. The operator was Dr. Buck who travels from place to place extracting teeth without pain by use of a preparation he calls Electro-dentos. The anæsthesia is effected by applying the preparation to the beaks of the forceps. Dr. Buck is not a practicing dentist but devotes his time to extracting teeth and selling rights to dentists. He claims that it entirely relieves pain. Now, as to whether the death of Mrs. B. was caused from the effects of this preparation, or was simply produced by the nervous shock or some other condition of her system, is a matter of conjecture. We record the facts as they came to us.—*Dental Luminary*.

FITTING PLATES TO FLABBY MOUTHS.—DR. W. MITCHELL says: In taking impressions of soft and flabby mouths, anything but plaster is decidedly contraindicated. Mix the plaster thin; do not put in much salt or sulphate of potash as there should be no great hurry for the impression plaster to harden. Introduce into the mouth quite thin, using only enough to take a good impression. Raise the lip with the thumb and first two fingers, thus enabling the tray to be carried to place with a slight lateral motion. This will allow the soft ridge to remain as near as possible in a normal position. Allow the plaster to thoroughly set before removal, and while your patient is with you trim the model where the softest tissue exists in the mouth. This is done with a view of producing an even distribution of pressure. A little experience will determine the requisite amount in difficult cases. Right here I would say that I have met with but few cases, and those only partial ones, where it was necessary to trim the model in order to secure the desired results.—*Dental Cosmos*.

READ JOURNALS.—DR. T. L. BROWN writes as follows to the *Medical Advance*: I secured a very important case, many years ago, and through this one case a number of others were brought to me. I never knew until months afterwards how I happened to be selected. It was in this way: One night at quite a late hour, I was called to see the family of a prominent New Hampshire official, temporarily staying in our town, to whom I was a perfect stranger. After I had discharged myself and quite a while afterwards, I learned that as soon as the gentleman found he required a physician, instead of asking the landlord of his hotel, or appealing at some drug store for the name of a doctor, he took a carriage and drove to the house of the postmaster. "I want a doctor," said he. "Tell me which one of the doctors of

this city takes the largest number of journals?" The post-master referred him to me. As the gentleman was leaving the house he said to the post-master: "A man who takes the journals of his profession is well read and up with the times, and that is the doctor I want to treat me and my family."—*Dental Register*.

[This is even more applicable to dentists in this age of great advancement.—ED.]

ACIDS OF THE STOMACH IN HEALTH AND DISEASE.—DRS. CAHN and VON MERING have lately been investigating the subject of the acids present in the stomach in health and in disease. They find that: 1. The quantity of lactic and hydrochloric acid in the stomach can be determined. 2. In the healthy subject, hydrochloric acid is found in the stomach half an hour after taking food. 3. Under a diet consisting exclusively of meat, hydrochloric acid alone is found. 4. Under a mixed diet, the stomach, whether healthy or diseased, contains hydrochloric, lactic, and volatile acids, in quantities varying according to the length of time the food remains in the stomach. 5. In fever and anæmia, hydrochloric acid may be wanting; but it is always present in amyloid degeneration, and it is only exceptionally absent in carcinoma of the pylorus. Violet of methylaniline does not form a reliable test for the presence or absence of hydrochloric acid in the stomach.

NOTCHING OF THE INCISOR TEETH NOT OF SYPHILITIC ORIGIN.—DR. HUTCHINSON says: There is a notching of the upper incisor teeth affecting the two permanent central ones of the second set not due to syphilis, but which may be confused with the notching of that disease.

The points of distinction are that the non-syphilitic tooth is wide instead of narrow at its free edge, and it is hard and craggy, while that from syphilis is pointed, like a screw-driver, and worn down. A case is mentioned where such notched teeth were hereditary in a family; the defects occurred in pairs and did not damage the whole row. There existed no evidence of mercurial poisoning, nor were the first permanent molars, the test teeth of the mercurial set, affected.

The writer thinks it beyond question that such teeth may come from inheritance. He was once shown such teeth in a Paris hospital, and great surprise was expressed that he did not consider them characteristically syphilitic.—*Archives of Pediatrics*.

CONTROLLING HEMORRHAGE.—DR. A. MAGUIRE thus writes in the *New Orleans Medical and Surgical Journal*: "In ante-bellum days I was called to a large plantation in our neighborhood by the manager, one of the old time overseers, who had great confidence in his powers of healing, and was convinced of his superiority over any new-fledged Esculapius, and that what he did not know of medicine was not worth knowing. He pointed to a ghastly-looking African sitting on a veranda, with his head leaning against a brick pillar, blanched as much as his color allowed, and with a small stream of blood and saliva trickling from one corner of his mouth. He had extracted, twenty-four hours before, the third molar, and the blood had never stopped. He had applied strong vinegar, Parvaz's perchloride of iron, nitrate of silver, and had caused the blacksmith of the plantation to bend and file down to a point a goodly-sized wire with which he had cauterized the socket. After

doing this he confessed he was at his wit's end. After reviving the drooping African with a square dose of whisky, I made a wad of cotton to be compressed between his jaws, leaving a piece protruding in the mouth of sufficient size to allow the involuntary play and suction of the tongue to be exerted on it, and not disturb the formation of the clot in the socket. The hemorrhage was arrested in ten minutes."—*Pacific Record*.

OUR NEXT PORTRAIT.

THE January, '88, number of the OHIO JOURNAL will contain an excellent portrait of its venerable editor, GEORGE WATT, M.D., D.D.S.

Societies.

"Wherewith one may edify another."

OHIO STATE DENTAL SOCIETY.

TWENTY-SECOND ANNUAL MEETING, SPRINGFIELD, OCTOBER 26,
27, 28, 1887.

THE third annual meeting of the reorganized society was held in the Council Chamber, Springfield, Ohio.

The privileges of the meeting were extended to all visiting dentists and physicians.

New members were elected as follows: C. E. Miles, Gallipolis; L. E. Custer, Springfield; F. S. Maxwell, Steubenville; Geo. E. Furbay, St. Clairsville; C. D. Peck, Sandusky City; W. H. Hall, Martin's Ferry; C. L. Franks, Loudonville; E. P. Hussey, Shane's Crossing; S. G. Downing, Lorain; T. G. Dennis, Felicity; F. A. Lewis, Springfield; Grant Mollyneux, Cincinnati; J. S. Chance, London; A. E. McConkey, Urbana; Charles I. Keely, Hamilton; R. A. Armstrong, Galion; G. J. Carter, Kenton.

The officers for 1888 are:

President, J. E. Robinson, Cleveland.

First Vice-President, F. C. Runyan, Springfield.

Second Vice-President, W. H. Sedgwick, Granville.

Recording Secretary, J. R. Callahan, Hillsboro'.

Treasurer, Geo. W. Keely, Oxford.

Board of Directors.—E. G. Betty, F. C. Runyan, Charles

Welch, W. H. Hague, H. A. Smith, J. Taft, C. H. Harroun, A. F. Emminger, D. R. Jennings, H. H. Harrison, C. M. Wright, F. H. Rehwinkel.

Committee of Arrangements.—N. S. Hoff, E. G. Betty, Cincinnati; C. I. Keely, Hamilton.

Committee on Publication and Voluntary Essays.—E. G. Betty, Cincinnati; J. R. Callahan, Hillsboro; W. H. Sillito, Xenia;

Committee on Membership.—C. H. Harroun, Toledo; D. R. Jennings, Cleveland; F. H. Rehwinkel, Chillicothe.

Committee on Dental Law.—C. H. James, Cincinnati; H. A. Smith, Cincinnati; F. H. Rehwinkel, Chillicothe; A. F. Emminger, Columbus; Ira Brown, Cleveland; C. H. Harroun, Toledo; C. R. Butler, Cleveland; J. R. Callahan, Hillsboro; F. C. Runyan, Springfield.

State Board of Examiners.—J. Taft, Cincinnati; E. G. Betty, Cincinnati; H. A. Smith, Cincinnati; C. R. Butler, Cleveland; F. H. Rehwinkel, Chillicothe.

The next meeting of the society will be held in Cincinnati, October, 1888.

DR. C. H. JAMES, of the committee on State Dental Law, said the bill had been laid over until this winter, when he hoped to be able to devote time enough to it to secure its passage. He offered the following, which was passed:

Resolved, That in the judgment of this Society, each member should so coöperate with the Committee on Dental Law as to influence our delegates [legislators] to vote for the same and also to solicit the co-operation of other members of the profession whom they *know* to be friendly to the bill.

On motion of Prof. H. A. Smith, the Secretary was instructed to prepare a circular calling attention to the need of co-operation on the part of dentists of the State, who are friendly, in procuring a proper dental law. That the circular embody the resolution of Dr. James, as above, together with the names of the Committee on Dental Law, and be sent to all members of the Society with sufficient copies of the proposed law.

Dr. A. A. Blount, lately returned from Switzerland and now residing in his old home Springfield, attended the meeting.

Members sometimes forget that the business of the Society is transacted by the Board of Directors, and try to bring business matters before the meeting. Some wonder why the Board never

publishes a report as to the doings of the Board of Examiners, the condition of the treasury and other matters of interest to members. The President or Secretary could make a brief report at the end of the meeting giving the desired information. We understand that the Board of Directors appointed a committee on Revision of the Constitution, and we presume that any suggestions in that line will reach the committee if sent to the Secretary, Dr. J. R. Callahan, Hillsboro'. Also that the Board resolved to increase the fee for examinations to \$25.00, and to pay the expenses of the examiners.

Books and Pamphlets.

THE AMERICAN SYSTEM OF DENTISTRY, IN TREATISES BY VARIOUS AUTHORS. Edited by WILBUR F. LITCH, M.D., D.D.S., Professor of Prosthetic Dentistry, Therapeutics and Materia Medica in the Pennsylvania College of Dental Surgery, Philadelphia. In three royal octavo volumes, containing about 900 pages each, with about 1500 elaborate illustrations. Price per volume, cloth, \$6; leather, \$7; half Morocco, gilt top, \$8. Volume III. For sale by subscription only. Lea Brothers & Co., Publishers, Philadelphia.

We have already noticed the appearance of the preceding volumes. Volume three contains articles on Anæsthesia and Anæsthetics, by Wilbur F. Litch, M.D., D.D.S.; Physiology of Digestion, by Albert P. Brubaker, A.M., M.D., D.D.S.; Physiology of Voice and Speech, by Carl Leiter, M.D.; Diseases Incident to the First Dentition, by James W. White, M.D., D.D.S.; The Causes of Congenital Defectiveness and Deformity of the Teeth, by Alton Howard Thompson, D.D.S.; Anomalies of the Teeth and Maxillæ—Hypercementosis, by S. H. Guilford, A.M., D.D.S.; Reflex Neuroses Associated with Dental Pathology, by A. P. Brubaker, A.M., M.D., D.D.S.; Inflammation of the Mucous Membrane of the Oral, Nasal, and Pharyngeal Cavities, by W. X. Sudduth, M.D., D.D.S.; Oral Surgery, by Louis McLane Tiffany, M.A., M.D., and John H. Packard, A.M., M.D.; The Eruption and Structural Relations of the Deciduous and Permanent Teeth, by C. N. Peirce, D.D.S.; Materia Medica and Therapeutics, by Henry Leffmann, M.D., D.D.S.; Dental Metallurgy, by Edward C. Kirk, D.D.S.; Dental Jurisprudence, by Charles G. Garrison, M.D.

The first and third volumes contain the really valuable part of the "System," so-called, and the work should be in the hands of every dentist and physician. To the editor and publishers are due the thanks of the profession for the best work extant on dentistry.

Instead of the 900 pages per volume promised by the publishers, they have given an average of 1070, and no fault can be found with the mechanical part of the work.

LINCOLN & BLAKISTON'S PHYSICIAN'S VISITING LIST FOR 1888. 70th year of publication with many improvements. P. Blakiston, Son & Co. 402 Walnut St., Philadelphia, Pa. \$1.00 to \$3.00.

It contains, in addition to space for 25 to 100 visits per day or week, the following useful tables and specific information:

A Calendar for 1888 and 1889. Table of Signs to be used in keeping accounts. Marshall Hall's Ready Method in Asphyxia. Poisons and Antidotes. The Metric or French Decimal System of Weights and Measures. Dose Table, revised and re-written for 1888, by Hobart Amory Hare, M.D., Demonstrator of Therapeutics, University of Pennsylvania. List of New Remedies for 1888, by same author. Aids to Diagnosis and Treatment of Diseases of the Eye, Dr. L. Webster Fox, Clinical Asst. Eye Dept. Jefferson Medical College Hospital and G. M. Gould. Diagram Showing Eruption of Milk Teeth. Dr. Louis Starr, Prof. of Disease of Children, University Hospital, Philadelphia. Pædological Table, Meadows. Disinfectants and Disinfecting. Examination of Urine, Dr. J. Daland, *based upon Tyson's* "Practical Examination of Urine" (5th Ed.) Incompatibility, Prof. S. O. L. Potter, Author of "A Hand-book of Materia Medica and Therapeutics." A New Complete Table for Calculating the Period of Utero-Gestation. Sylvester's Method for Artificial Respiration. Illustrated. Diagram of the Chest.

NITROUS OXIDE; its properties, method of administration and effects. By S. H. GILLFORD, A.M., D.D.S., Professor of Operative and Prosthetic Dentistry in the Philadelphia Dental College, Philadelphia.

This manual of 94 pages is neatly printed, illustrated, and bound in cloth. The author first gives the history of the discovery of nitrous oxide. The following chapters treat on its chemical properties, physiological action, relative safety, advisability of administration in special cases, its manufacture, inhalers and accessory appliances, administration, extraction during anæsthesia, accidents and emergencies, combined anæsthetics, and legal considerations. The suggestions given are very practical and although intended more for the student and young practitioner, this little book should find a place in every dentist's library.

TRANSACTIONS OF THE ILLINOIS STATE DENTAL SOCIETY. 23d Annual Meeting, Jacksonville, May 10-13, 1887.

A very neatly printed pamphlet, not devoid of typographical errors and lack of editorial supervision, but containing that which the members wrote or intended to say more nearly correct than most of the reports in the journals. The Illinois is one of the foremost societies in the country and its meetings are always interesting and instructive.

TRANSACTIONS OF THE INDIANA STATE DENTAL ASSOCIATION. 29th Annual Meeting, Lake Maxinkuckee, June 28, July 1, 1887. Published for the Association by Mrs. W. M. Herriott, Indianapolis, Ind.

Although an improvement on last year's publication it shows that the editor is still abroad.

Our Aftermath.

"I SAY, JENKINS, can you tell a young tender chicken from an old tough one?" "Of course I can." "Well, how?" "By the teeth." "Chickens have no teeth." "No, but I have."—*Puck.*

WOMAN IN DENTIST'S CHAIR.—"Oh, those horrid, cruel looking forceps. Won't they nearly kill me, doctor?"

DENTIST.—"Madam, as I am a man of truth and honor, you won't feel them." Tooth comes out like a cedar knot. Woman shrieks blue ruin and bloody murder. "You wretched man; you said I wouldn't feel them!" Calm Dentist.—"Neither you didn't; that was the tooth you felt; forceps never hurt anybody."—*Burdette.*

THE RESULT.—"How do you like your new type-writer?" inquired the agent. "It's immense!" was the enthusiastic response. "I wonder how I ever got along without it." "Well, would you mind giving me a little testimonial to that effect?" "Certainly not; do it gladly." So he rolled up his sleeves and in an incredibly short time pounded out this: "afted Using thee automatic Backaction atype writer for thre emonth\$ an d Over. I unhesitatingly pronounce it prono nce it be al ad even more than th e Manufacturs claim? for it. During the time been in our possessio n e. i. th re month?! id has more th an paid for it\$elf in the Saveing of time an d labrr?" a. b Thompson, "There you are, sir." "Thanks," said the agent dubiously.—*Ex.*

[The above looks very suspicious yet we can hardly believe that it is the work of our friend Topeka Thompson.]

PHYSICIANS MAY PWAKTICE DENTISTWY, YOU NAW!—"Hello! Doc, what does this mean?" said one M.D. to another as he gazed at the latter's new sign:

DENTISTRY PROFICIENTLY EXECUTED.

"Well, Chawlie, you see its all the same thing now, aw! since the cowl decision that physicians may pwaktice dentistwy. But I had a tewable hawd opewation to perfovm this mawning. The patient, aw! had foah holes wight in the centahs of the lawgest teeth and she wanted them filled with gold. I had laid in a supply of dental matewials, you naw! aw! and I fastened on the wubbah with stwings, and placed a lawg piece of cotton all aound the teeth. My medical instwments were all too lawg so I cleaned out the dabwee with an eah-spoon, deah boy! don't mention it, then went to pwepaah the gold for filling but I held it in a ladle ovah a hot fiah for two oughs and the beastly stuff wouldn't melt and the patient was getting a mite newous, when a happy thought stwuck me, Chawlie, and I took a piece of dentists' magnifi-que, like they make plates out of, you naw. It softens in hot watah but hardens when cooled. Well, deah boy, aftah it softened I stuffed it wight into the teeth, telling the lady it was an impwovement ovah gold. It worked just like putty, Chawlie, and hawdened like a bwick. 'Twas a gweat success —gweat success."

